# THE Coybean Digest



Agronomists Donald G. Hanway, University of Nebrasko, and K. E. Beeson, Purdue, enjoy a banquet joke.

Report on ASA's 37th Convention

Volume 17 • Number 11 SEPTEMBER 1957



At heed banquet table, Mrs. Ersel Walley, Shizuko Hayashi and Mrs. Geo. M. Strayer.



Natolie, Potsy and Sandra Norman, 4-H club telent winners, play "Blue Skies," accompenied by their father, Grant Norman.



Coleman Crows, Keiser, Ark., (second from left) visits with Alan Stallings, Morriton, Ark., and his two sons, Welt and Alan, Jr.



Edward M. James, Soybean Council consultant, and ASA President Albert Dimond converse pleasantly.

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# THE Soybean Digest

HUDSON, IOWA

No. 11 Vol. 17 September, 1957 IN THIS ISSUE Index of Advertisers ...... Late News \_\_\_\_\_\_13 ASA's 37th Annual Meeting \_\_\_\_\_\_\_16 Report of the Executive Vice President and .....19 Secretary-Treasurer ..... GEO. M. STRAYER .....25 Resolutions HOWARD L. ROACH GWYNN GARNETT Soybeans Around the World ......30 ERSEL WALLEY SHIZUKA HAYASHI Greetings from the Association of Oil and Fat Manufacturers ......37 of Japan ..... MITSUO HIRANO American Soybeans in Trade Fairs Around the World ......38 GEORGE A. PARKS, JR. DUPUY BATEMAN, JR. ......48 The Soybean Outlook ..... FRANCIS A. KUTISH The Soybean Industry—A Peek at the Future ......52 MARTIN SORKIN The Soybean Cyst Nematode and Your Industry ......56 JOSEPH F. SPEARS Soybean Breeding Research .... HERBERT W. JOHNSON Progress in Soybean Research .... J. C. COWAN .....67 Sees Surplus Problem for Two Decades ......71 Research Cheaper Than Price Props .......72 CCC Sells All Takeover Beans ......74 Midsouth Handlers in Annual Meeting \_\_\_\_\_\_75 Grits and Flakes .......76 Late Reports ......79 August Markets ......80 Crop Report .....82 Washington Digest Porter M. Hedge Market Street ......85 In the Markets ......86

### THE SOYBEAN DIGEST

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Objectives of the American Soybean Association include the bringing together of all persons interested in the production, distribution and utilization of soybeans; the collection and dissemination of the best available information relating to both the practical and scientific phases of the problems of increased yields coupled with lessened costs; the safeguarding of production against diseases and insect pests; the promotion of the development of new varieties; the encouragement of the interest of federal and state governments and experiment stations; and the rendering of all possible services to the industry.

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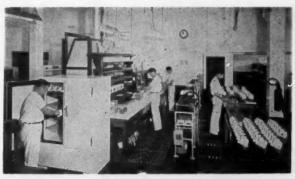
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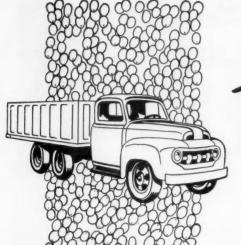
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# Honorary Life Members 1957



**Ersel Walley** 

### Howard L. Roach

HOWARD L. ROACH of Plainfield, Iowa, has given much of his life to the service of the soybean crop and soybean organizations.

He has been a member of the board of directors of the American Soybean Association and active on its committees for many years.

He was vice president of the Association in 1943 and 1944 and president in 1945 and 1946.

Mr. Roach was active in the formation of the Soybean Council of America, Inc., and was elected its first president in 1956, which position he now holds.

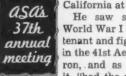
He was in charge of formulating and putting into action the market development projects for soybeans and soybean products that are being sponsored by the Council in Spain and Italy, and he went abroad for this purpose earlier this year.

Mr. Roach's experience with the soybean crop and its products has been intensive and varied, and includes growing, handling, processing and feed manufacturing.

Mr. Roach is an accredited farm manager, a member of the American Society of Farm Managers and Rural Appraisers.

His education included Plainfield, Iowa, high school, Cornell College

and the University of California at Berkeley.



He saw service in World War I as a Lieutenant and fighter pilot in the 41st Aero Squadron, and as he states it, "had the advantage

of seeing most of England, France, Germany and Belgium from the air."

Mr. Roach is married and is the father of two sons and one daughter. He also has four grandchildren.

He is the president of Roach Farms, Inc., a firm engaged in farming, farm management, estate management and rural appraising.

He is past president of the Iowa Good Roads Association, the Iowa Farm Managers Association and of the National Republican Farm Council. He is a member of the U.S. Chamber of Commerce.

Mr. Roach's long service to his church, the American Baptist, and to the Boy Scouts of America is something of which he can be proud. He has been awarded the Silver Beaver, the highest service award offered by the Boy Scouts, for his contributions to scouting.

He is national treasurer of the American Baptist Men, and is a member of boards and committees of the American Baptist Convention. Mrs. Roach (Dr. Frieda R. Roach) is well known in her own right, as she is now national president of the American Baptist Women.

### **Ersel Walley**

IT WOULD BE hard to overemphasize the interest and enthusiasm and plain hard work that Ersel Walley of Fort Wayne, Ind., has expended in behalf of the soybean crop and the American Sovbean Association. It would be hard to overemphasize the impact that he has had on the crop and the Association.

Mr. Walley saw early that what the soybean needed was not restricted acres but more markets and wider usage. And as chairman of the trade and use and market promotion committees of ASA, he has worked long and hard and vigorously for the promotion of broader uses and markets.

Earlier than most he sensed the opportunities for the sale of U.S. soybeans abroad. He has traveled to the far ends of the earth in behalf of these sales, sometimes at his own expense.

Some years ago Ersel Walley coined the phrase, "Soybeans are worth more money."

Ersel Walley was born and raised on a farm in Paulding County, Ohio. After graduation from high school he attended business college, taught school, served as a deputy in the county treasurer's office, and completed his college education.

As a tenant farmer he began growing soybeans in 1922, and as a farm operator and a farm manager, he has grown soybeans continuously since that year. From 1923 to 1927 he was also in charge of two large grain elevators in northwestern Ohio and gained early experience in the handling of soybeans from the standpoint of the local elevator.

In 1931 Mr. Walley organized Walley Agricultural Service with a principal office in Fort Wayne, Ind., and a branch office in Paulding,

In 1947 Walley Agricultural Service initiated the Monthly Farm Business Letter which is supplied to banks and business firms, and Mr. Walley serves as senior editor of this publication.

For many years he has served as a director of the American Soybean Association, and was president in 1948 and 1949. In 1948, he spent 3 months in Europe at his own expense, investigating the possibility of a postwar market for American soy-

In 1956 and 1957, he accepted assignments to arrange soybean exhibits at International Trade Fairs in Osaka and Tokyo. While in Japan in 1956 he was instrumental in establishing the Japanese-American Soybean Institute.

Mr. Walley and Mr. Roach were chosen honorary life members of the American Soybean Association at the Minneapolis convention. The awards were presented at the annual banquet. They were the 23rd and 24th members so honored.

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# Late News

Published 32 times yearly as a service to the soybean industry.

### SOME BEANS HAVE BEEN HARVESTED

Vol. 5, No. 17 Hudson, Iowa Sept. 9, 1957

We have scattered reports of last of August and first of September harvest of 1957-crop soybeans in Kansas, Missouri and southern Illinois.

Elmer L. Buster, Kansas Soya Products Co., Emporia, received his first soybeans Aug. 26. They were Harosoys yielding 20 bushels per acre.

Three hundred acres of defoliated Clark soybeans were to be harvested near Sikeston, Mo., Aug. 27, with very few fields to be harvested for another 2½ weeks.

Several loads of Chippewas were received in the Trenton, Mo., area at about the same time. And some combining was being done south of Paris, Ill.

But in general the crop was reported later than normal all over the soybean belt. Observers expected movement to start a week to a month later than last year.

Buster says the main movement in Kansas won't come until early October, with yields and perhaps total bushels more than last year.

J. Ross Fleetwood, University of Missouri, Columbia, reported the crop late as of Aug. 30, but dry hot weather was maturing it rapidly in some areas. He thought the movement would start a week later than in 1956.

G. G. McIlroy, Irwin, says movement will be later than normal in west central Ohio.

Russell S. Davis, Clayton, says a killing frost before Oct. 15 will catch a sizable area in west central Illinois.

In Iowa the crop was making good progress but warm, dry weather was needed to mature it.

# OUTLOOK

You will have the benefit of U. S. Department of Agriculture's Sept. 1 soybean crop estimate before you read this. Galvin's estimate, out Sept. 4, was for a national crop of 452 million bushels, up 10 million from a month earlier.

Quoting Walley Agricultural Service, Fort Wayne, Ind., Sept. 1: "At best it is doubtful if a crop as large as the 1956 crop is possible in spite of the larger acreage this year. Too many late soybeans is the real threat. With shorter days, soybeans incline to shut up shop for the year. Without ideal weather the crop will likely be below early expectations."

And Davis at Clayton, Ill., Aug. 28: "If Illinois produces her normal 25-30% of the crop again this year, the total yield will be below 1956. We drove across Illinois through Peoria and Bloomington and back through Taylorville, Assumption and Springfield. Only in the Bloomington area do the soybeans cover the ground from row to row. A great many fields on the south route are only knee high. On sandy soils east of the Illinois River the leaves are yellowing on both north and south routes and growth is short."

Mark H. Brown, Lake Providence, La., reports the early crop better than last year. Total crop will be 20% less than 1956. Grass is bad in the late crop.

The Virginia State Weather-Crop Report states soybeans have



made rapid improvement since recent rains and prospects are now for average or better yields.

### TO RESTRICT IMPORTS?

A delegation from the Ontario Soya-Bean Growers' Marketing Board has been negotiating with the Canadian government at Ottawa for measures to raise the soybean price level in Canada and some form of restricted imports to encourage home production of soybeans.

They point out that the Canadian crop can be expanded three times before a surplus will develop since Canada has been importing about two-thirds of her requirements from the United States.

The London, Ontario, Free Press reports "the government will study the board's proposal to raise the soybean price level and decide whether it can best be done with a system based on floor prices and quotas, tariffs or a straight subsidy."

The delegation included Gilles DePutter, chairman of the board; A. E. Jolley, vice chairman; and K. A. Standing, secretary-manager.

### EXPORT OUTLOOK FOR OILS

It appears that exportable supplies of edible vegetable oils in 1957-58 will not be much different from this year's expected record exports of 1½ billion pounds, Martin Sorkin, Office of the Secretary, U. S. Department of Agriculture, told the American Soybean Association convention in Minneapolis.

"Our major markets for soybean oil under P. L. 480 in the past year were Spain and Italy," said Sorkin. "Italy's last two (olive) crops were relatively small and an increase is in prospect for 1957-58. However, since Italy normally is a heavy importer there is a good possibility that she will take oil under P. L. 480 again next season. Spain's last crop was well above average . . . Even so, Spanish needs for oil have been increasing at a rapid rate and the import needs may again prove to be substantial.

"We can assure you that P. L. 480 will be used where possible to export oil which is surplus to our dollar demands."

### SALES BY COMMODITY

Commodity Credit Corp. has just announced a new sales total of 24.9 million bushels of soybeans taken over in price support operations on the 1956 crop. Sales by commodity offices: Chicago 14.7 million bushels; Minneapolis 8.6 million bushels; Kansas City 876,-200 bushels; Dallas 689,269 bushels.

	ash prices Aug. 30
Soybeans, No. 1 yellow, Chicago, bu.	2.40
Soybean oil meal, Decatur, ton	53.00
Soybean oil, crude, Decatur, lb	.111/4

	Cash price to farmers for No. 1 old crop soybeans Aug. 30	Cash price to farmers for No. 2 old crop soybeans Aug. 30	Price for new crop soybeans Aug. 30	Retail cash price for bagged soybean oil meal Aug. 30
Ark	.\$2.20		\$2.06@\$2.14	
Ill	2.33@\$2.35	\$2.26@\$2.33	2.15	\$60
Iowa	2.18	2.18	2.05	75
Kans Mo	2.17 2.25	2.17	2.09	68@\$70
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Ohio Tenn	2.25	2.29	2.09	75 63



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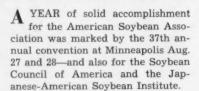
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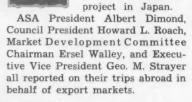
New officers American Soybean Association, left to right, Sawyer, Strayer, Simcox.



It saw the first year's activity completed for the Council with soybean

asab 37th annual meeting

export market projects launched in Spain and Italy, and the Japanese-American Soybean Institute well into its second year on a similar





Managing Director Hayashi reported on the work of the Institute. Sr. Don Juan de Arespacochaga of Madrid, Spain, appeared as a representative of Foisa, one of three Spanish oil groups cooperating with the Council on the export project in Spain.

Mitsuo Hirano sent greetings from the Association of Oil and Fat Manufacturers of Japan.

Minneapolis

Of Solid

As Strayer said in his annual report: "For the first time in history we now have the organizational structure of the soybean industry completed and we are on the threshold of big things."

About 300 soybean producers, processors, grain handlers and others from 23 states and Canada, Japan, Spain, Italy and France attended the 2-day sessions at Hotel Leamington.

Annual meetings of the National Soybean Processors Association and the National Soybean Crop Improvement Council advisory board were also held at the Leamington.

John Sawyer, London, Ohio, was elected ASA president, succeeding Albert Dimond, the Association's efficient and hard-working president of the past 2 years.

C. G. Simcox, Assumption, Ill., was elected vice president, succeeding Sawyer.

Geo. M. Strayer, Hudson, Iowa, was reelected executive vice president and secretary-treasurer.

Minnesota acquired a new director in recognition of its expanding soybean production. His name is Charles Simpson, Waterville, Minn.



Honorary life membership award is presented to Ersel Walley (left) by K. E. Beeson, Purdue University extension agronomist.



Minnesota directors Charles V. Simpson, Waterville, and John W. Evans, Montevideo. Simpson was newly elected at the convention. Evans is an ASA past president.

Mr. and Mrs. A. E. Jolley, Chatham, Ontario, Canada.



Left to right, the newly elected officers of the National Soybean Processors Association: Glenn Pogeler, vice chairman of the board; Don Walker, secretary; Harold Abbott, treasurer; M. D. McVay, chairman of the board; and R. G. Houghtlin, president.



# Meeting Marks Year Accomplishment

# John Sawyer elected ASA president. A director from Minnesota is added.

Walter M. Scott, Jr., Scott Plantations, Tallulah, La., was elected to the board of directors for 1 year to succeed Herbert H. Huddleston, Lamont, Miss.

Directors reelected were Dimond; Jake Hartz, Jr., Stuttgart, Ark.; Simcox; Chester B. Biddle, Remington, Ind.; Howard L. Roach, Plainfield, Iowa; John W. Evans, Montevideo, Minn.; Sawyer; and A. E. Jolley, Chatham, Ontario, Canada.

### Council Membership

Producer membership on the board of directors of the Soybean Council of America will remain the same during the coming year as in the year just closed, except that Simcox will replace Huddleston.

Other producer members of the Council board are Sawyer, Evans, Biddle, and Hartz.

Processor members of the Council board are D. O. Andreas, Mankato, Minn.; S. E. Cramer, Chicago, Ill.; W. E. Huge, Fort Wayne, Ind.; Dwight Dannen, St. Joseph, Mo.; Ralph Golseth, Danville, Ill.; Richard Westley, Chicago; M. D. McVay, Minneapolis; and Donald B. Walker, St. Louis.

J. O. Christianson, director of the

Minnesota Farm School, was toastmaster at the annual banquet, which also featured musical numbers by Minnesota 4-H talent contest winners.

U. S. Senator H. H. Humphrey, booked as the banquet speaker, failed to show due to the "pressure of legislative duties." Walley and Roach, who were presented honorary life memberships the same evening, substituted and gave colorful accounts of their recent trips abroad.

The Minnesota soybean processors sponsored a reception preceding the banquet. Committees responsible for the success of the convention:

Convention—John W. Evans, chairman; Geo. M. Strayer, Verlon Welch, Howard L. Roach, Jean W. Lambert, Tom Croll, and James Hayward.

Awards—John Sawyer, chairman; David G. Wing, and Dr. W. L. Burlison.

Resolutions — John Butterfield, chairman; John Evans, H. H. Huddleston, Howard L. Roach, Harold Lumsden, O. H. Acom, A. E. Jolley, C. G. Simcox, and Roger Gish.

Nominations - David G. Wing,



David G. Wing, Mechanicsburg, Ohio, gives Mrs. Howard Roach a bouquet of red roses in recognition of hanorary limembership award to her husband at right. Seated at left is J. O. Christianson, Minnesota Farm School director, who was master of ceremonies.



Dr. W. W. Worsella, head of crops and soils, South Dakota State College; and W. W. Brookins, secretary of the Flax Development Committee, Minneapolis.



H. M. Newell, Swift & Co., Chicago, (left), Ars. Ward Calland, and Calland of the National Soybean Crop Improvement Council, Fort Wayne, Ind.

Registration desk was busy. Geo. McCulley, ASA business manager and Mrs. McCulley at left were in charge. At the center is A. E. Jolley, director from Ontario; at the for right is K. A. Standing, secretary-manager of the Saya Bean Growers Marketing Board.

David Frymire, assistant manager, Ohio Valley Soybean Cooperative, Henderson, Ky.; and Oscar D. Keck, Mt. Vernon, Ind., a director of the co-op.







A section of the crowd listening to the speeches.



Mr. and Mrs. C. G. Simcox, Assumption, III., at the banquet.

chairman; Ersel Walley and Chester B. Biddle.

### **Processor Election**

NATIONAL Soybean Processors Association reelected R. G. Houghtlin, Chicago, Ill., president.

M. D. McVay, Cargill, Inc., Minneapolis, Minn., was elected chairman of the board; and Glenn Pogeler, North Iowa Soybean Processing Association, Mason City, Iowa, was elected vice chairman. Both are new offices.

Dwight L. Dannen, Dannen Mills, St. Joseph, Mo., retired as vice president and chairman of the NSPA executive committee.

Don Walker, Ralston Purina Co.,

St. Louis, Mo., was reelected secretary; and H. A. Abbott, Funk Bros. Seed Co., Bloomington, Ill., was reelected treasurer.

The following were elected directors to serve 3-year terms: D. O. Andreas, Honeymead Products Co., Mankato, Minn.; Earl J. Brubaker, the Borden Co., New York, N. Y.; R. G. Golseth, Lauhoff Soya Co., Danville, Ill.; R. B. Jude, Spencer Kellogg & Sons, Inc., Buffalo, N. Y.; W. H. Knapp, the Buckeye Cotton Oil division, Cincinnati, Ohio; and E. E. Rhodes, A. E. Staley Manufacturing Co., Decatur, Ill.

Serving holdover terms as directors are: Sewall D. Andrews, Jr., General Mills, Inc., Minneapolis, Minn.; S. E. Cramer, Swift & Co.,

Chicago, Ill.; Dwight L. Dannen, Dannen Grain & Milling Co., St. Joseph, Mo.; A. C. Hoehne, Archer-Daniels - Midland Co., Minneapolis, Minn.; W. E. Huge, Central Soya Co., Inc., Fort Wayne, Ind.; M. C. Larson, Muscatine Processing Corp., Muscatine, Iowa; Donald C. Ogg, Iowa Soya Co., Redfield, Iowa; J. J. Quinlan, Allied Mills, Inc., Chicago, Ill.; H. R. Scroggs, Iowa Milling Co., Cedar Rapids, Iowa; William King Self, Riverside Oil Mill, Marks, Miss.; R. O. Westley, the Glidden Co., Chicago, Ill.; Clark Yager, Pillsbury Mills, Inc., Clinton, Iowa; and Ralph Wells, Ralph Wells & Co., Monmouth, Ill.

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# Report of the Executive Vice President and Secretary-Treasurer . . . Geo. M. Strayer

# "We Are on the Threshold Of Big Things"

OFFICIAL FIGURES released by U. S. Department of Agriculture indicate the largest soybean acreage in history in 1957. There are varying figures on the anticipated size of the 1957 crop, in terms of bushels, with approximately the same number of estimates as there are estimators. Without question we are going to have another large soybean crop this year, and it may or may not be as large as that of 1956.

During the past year we have, for the first time, operated our industry under conditions which indicated that we were going to have a surplus of soybeans on hand at the end of the crop season. As the season has progressed it has become less apparent that we would have such a surplus, and through the period of months that surplus has entirely dissipated. It now appears that we

ASA's 37th annual meeting may have no more soybeans on hand on Oct. 1, 1957, than we had on Oct. 1, 1956. That is a healthy situation, and let us hope that we can continue to be in that

position as each of the crop years is concluded.

This year we are seeing the largest export movement of soybeans in history. It is now quite apparent that we will reach the 80-million-bushel mark on the export of whole soybeans, and in addition to that we have exported from the United States tremendous quantities of soybean oil during the past year. We have begun to capitalize on the tremendous potential markets for

soybeans and soybean products which exist around the world. We have begun to scratch the surface, but we still have a long way to go before we have reached our potential.

You will recall that at this meeting 1 year ago we had a number of representatives of the Japanese trade organizations with whom we are working in Japan. Following our meetings at Urbana we spent considerable time showing these men around the soybean production areas, through processing plants, we gave them opportunity to meet with producers and handlers, we showed them the exportation of soybeans from the ports of New Orleans and Mobile, and we gave them an opportunity to meet with officials of the U.S. Department of Agriculture and with officials of national farm organizations in Washington, D. C.

On Mar. 31 of this year we completed the first full year's operation of the Japanese-American Soybean Institute, which is the operating agency for the market development project which we are operating in conjunction with the Foreign Agricultural Service of the U.S. Department of Agriculture. The final report for the first year indicated the expenditure of about \$69,000 in Japanese yen of funds which were the property of the U.S. government, and which had been made available to us under our market development project operated under Public Law 480.

In services, time of personnel and cash the Japanese trade groups contributed approximately \$15,000 in



Japanese yen. In cash expended, personnel time, time of industry members who assisted in the entertainment of the visitation team and similar items, the American Soybean Association expended approximately \$25,000 in the first year's operation of this project. In other words, during this first year's operation we expended a total in Japanese yen and in dollars of approximately \$109,000 to conduct a rather thorough study of the needs of the Japanese markets.

Yesterday afternoon Mr. Hayashi described to you the work of the Japanese-American Soybean Institute. It is all aimed at one objective—increasing the markets for American soybeans in Japan. To increase the markets we have to increase markets for soybean products, and our present programs are aimed solely in that direction.

Based on the first year of experience the board of directors of the American Soybean Association at its meeting in Chicago on Dec. 1 authorized the president and the secretary to negotiate with the Foreign Agricultural Service for continuation of the Japanese market development project for a 3-year period. We found this to be an impossibility, but we did enter a request for continuation of the project beyond Mar. 31.

### Went to Japan

I spent the month of February in Japan reviewing the work of the Japanese-American Soybean Institute and meeting with governmental agencies and the five trade groups

Four processors: Norman Haugse and Earl G. Oien, Halstad Elevator Co., Halstad, Minn.; and Frank Smith and Clyde Logan, Farmers Cooperative Association, Ralston, Iowa.



Visiting in the Crown Iron Works Co. booth: Harry Wiysel, Fremont Cake & Meal Co., Fremont, Nebr.; Ruben Miller, Sam Miller Bag Co., Minneapolis; John Enns, Co-op Vegetable Oils, Ltd., Altoone, Manitobe; and Al Kaiser of Crown, Minneapolis.



in Japan with whom we are conducting the affairs of the Japanese-American Soybean Institute. While there I obtained the agreement of the five trade groups to continue participation in the operation of the Japanese-American Soybean Institute on an expanded basis for a 2year period. When I returned from Japan with the signatures of the five cooperating agencies we immediately filed with the Foreign Agricultural Service of USDA a request for a project which would utilize \$150,000 per year in FAS funds. This project was approved on Apr. 3, and is now in operation.

In other words, we are now operating on the basis of a program which is doubled in size over that of the past year. This requires that we double the minimum amount of



David G. Wing, Mechanicsburg, Ohio gives the report of the nominating committee.



Agronomists G. P. Webster, University of Kentucky, Lexington, and J. B. Peterson, Purdue University.



Three lowens: C. F. Booker, North lower Cooperative Processing Association, Forest City; Fred Maywald, Farmers Grain Dealers Association of lowa, Des Moines; and C. M. Gregory, Farmers Cooperative Co., Dike.

financing which we put into this project. We have requested from a number of organizations and agencies assistance in the financing of the dollar end of the project, and response has been generally satisfactory.

I think it very wise to keep in mind the fact that there is a potential market in Japan for several times the quantity of soybeans now being purchased. The greatest single limiting factor is the allocation of dollars by the Japanese government. Another deterring factor is the 10% import duty which is levied on all soybeans imported into Japan today. Taking a cue from some past actions of industry groups within the United States, the Japanese government on Oct. 1, 1956, reinstated the 10% import duty, under the guise of protection to Japanese soybean producers. Therefore the end products made from American soybeans in Japan are approximately 10% higher in price than would otherwise be necessary, limiting the markets to that extent.

Cooperation from the five Japanese trade groups and from the personnel in the central office of the Japanese-American Soybean Institute has been extremely satisfactory, and it is my personal feeling that the assuming of responsibility for this market development project in Japan and the cooperative programs lined up with the Japanese trade groups is the biggest single step forward which the American Soybean Association has ever taken toward development of markets for our commodities.

### Work of the Council

You will recall that at the meetings at Urbana 1 year ago there was considerable discussion of the anticipated program of the Soybean Council of America. The organization had just been incorporated at that time, and the first meetings had been held, after a long series of committee meetings which led up to the actual formation of the organization. Before we left Urbana a year ago provision had been made for the signing of a market development agreement covering the operations of the Soybean Council of America in European countries. The agreement was signed very shortly after the Urbana meetings, and Howard Roach is reporting to you this afternoon on the operations and the accomplishments of the market development program being conducted by the Soybean Council of America in the European countries. It will suffice to say here that the

opening of an office in Spain, and the opening of an office in Italy, together with the employment of Fred Marti, the former agricultural attache at Madrid, Spain, as director of our European operations, has been a big step forward for the soybean industry.

We are now in a position to do the things which will result in increased usage of American soybean oil and soybean oil meal in the European markets. For a long period of years I was very much interested in the formation of an industry-wide organization to do the promotional work which I could see was so acutely needed, and which could not be done by the American Soybean Association. Now we have that organization built, we have a degree of cooperation between the producers and processors of soybeans which has never before existed, and we are ready to aggressively do the selling job which is so badly needed.

In 1956 the American Soybean Association sponsored an exhibit of American soybeans at the Osaka International Trade Fair, and Ersel Walley was in charge of that exhibit for the American Soybean Association. Our exhibit there was visited by nearly 1 million people.

During the past May we sponsored a second exhibit, this time at the Tokyo International Trade Fair. This exhibit was visited by approximately 1.2 million persons. We occupied 110 linear feet of exhibit space in the agricultural pavilion of the Tokyo International Trade Fair, about 40 feet of which was devoted to the American Soybean Association exhibit, and about 60 feet of which was devoted to the exhibits by the miso, shoyu, tofu and fats and oils manufacturers organizations in Japan. The 1957 exhibit was presented under the name of the Japanese-American Soybean Institute, and it showed the travel of American soybeans from the fields of Minnesota, Iowa, Illinois, and the other states to the ultimate user in Japan in a very graphic fashion.

It is my belief that as a means of introducing American soybeans to the various areas of the world the trade fair exhibits are very worthwhile. A trade fair exhibit will never do the entire selling job. It must be accompanied by and supplemented with actual trade efforts expended by the industry involved. I am satisfied that the Japanese-American Soybean Institute operations in Japan are doing the job in that country, and I know that the Soybean Council efforts in the Eur-

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opean countries are aimed at this same direction.

The 1957 program on price supports on soybeans was of considerable interest. A year ago we had seen an increase in the price support level, over the objections of representatives of the American Soybean Association. In 1957 the price support level was cut back to a figure slightly above that of the 1955 crop. This was a step in the right direction, for it enables us to be more competitive pricewise in the markets of the world on soybeans and soybean products.

### Legislative Front

Strangely, there have been no major legislative problems in Washington so far as the soybean industry has been concerned during the past year. We have exerted considerable effort in behalf of the continuation of P. L. 480 appropriations, and after long delay the bill appropriating an additional \$1 billion for the use in the exportation of agricultural commodities into other friendly nations of the world was passed and signed by the President only a few weeks ago. Large quantities of soybean oil have been exported under this program, but no soybeans have ever been exported under P. L. 480. It is my sincere wish that we should keep our industry in such position that no soybeans are made available under P. L. 480 for some time to come. Certainly our industry is more healthy when that situation

We still have one large problem which we must solve. It was with us a year ago. It pertains to the grading standards on soybeans. I would like to review for you very briefly the importance of it.

When the grading standards on American soybeans were changed effective as of Sept. 1, 1955, there was one very apparent omission. We had requested that the broken particles of soybeans which pass through the 8/64-inch round hole screen be removed from the classification as foreign material, and placed in the category of split soybeans. When the decision was made in the grain grading branch of the Department of Agriculture to change the standards effective as of Sept. 1, 1955, it was feared there were so many administrative problems in changing the classification of the small broken particles of soybeans that the change which had been proposed by the American Soybean Association, and upon which public hearings had been held, was not made. We have

continued to classify all that material which goes through the 8/64-inch round hole screen as foreign material.

As I have pointed out repeatedly in my editorials in the Soybean Digest and at these meetings, broken soybeans produce soybean oil and soybean oil meal. They are not foreign material. They are merely soybeans which have changed size and form. We are doing material damage to ourselves so long as we classify broken particles of soybeans in the foreign material classification. High foreign material content is continually used against us in Japan, in the European countries and even here at home in the selling efforts on American soybeans. For our own protection and in behalf of increasing our markets for American soybeans we should again request consideration of this change by the grain grading branch, and if necessary I suggest that we ask for a public hearing on this matter again. We are our own worst enemy in this matter, and it is time we are doing something about it.

At various times in my annual reports I have discussed with you the financial problems of the American Soybean Association. For a series of years the American Soybean Association has found itself in a position of having an appetite which is bigger than its income. There have been so many jobs which needed doing and there has been insufficient income to the Association to do those many jobs. We have not told our story to enough people. To the average soybean producer of the United States the many things which have happened in the soybean industry have happened because of the soybean crop, and not because men have spent time, effort, sweat and toil in making those things happen. The average producer, I am very much afraid, does not recognize that the American Soybean Association has had something to do with the prices which he has received for soybeans through the last several years. Our financial income has been insufficient to take care of the many demands on the Association for expenditures and personnel.

During the past year we have seen a slight reversal of the trend which has been taking place for the last couple of years on advertising lineage in the Soybean Digest. On Jan. 1, 1957, because of increasing paper costs and increasing print costs, we increased our advertising rates in the Soybean Digest. Contracts submitted to us prior to Jan.

1 carry the old rate. We are now beginning to see the effects of the rate increase, and we have also increased the amount of advertising lineage during the current year over that of the past. We hope this trend continues.

The Soybean Blue Book continues to show a profit. Subscriptions to Late News continue to be favorable and we have held about steady on that publication. There are some problems in connection with it that are being considered by the board of directors.

As has been the custom for a number of years, an official audit of the books of the American Soybean Association was made by Charles N. Hostetler, certified public accountant. His audit covered a period of 121/2 months, as the 1956 audit had been made as of Aug. 1, due to the early dates on our convention held at Urbana. This year because the convention dates were later, we closed our books as of Aug. 15. The current audit, therefore, represents 121/2 months of actual operations. but it also represents 13 issues of The Soybean Digest.

### **Finances Better**

For the 121/2 months we show a net income slightly above the actual expenditures during that period. After making allowances for inventory depreciation, for depreciation on equipment and paying all bills for the 121/2 months, we show a net income of excess of expenditures of approximately \$2,800. This is the first time in several years when we have not operated on a deficit basis. I hope that the trend will continue. The increase in advertising rates in the Soybean Digest should be of assistance through the next year, and an increase which has already been announced on the 1958 edition of the Soybean Blue Book should also make it easier to stay within our income during the coming year.

Since the Soybean Council of America, Inc., assumed some of the financial burden of some of the market development work which had previously been done by the American Soybean Association the financial situation does look better. However, we are faced with the necessity of raising the funds necessary to match the funds available from Foreign Agricultural Service in carrying on the Japanese project which has been doubled in size. A portion of those funds has been raised, but we still have a considerable way to go before we have raised suffi-



Young lady, that luxuriant mat of growing green is Gramps' pride and joy . . . forty acres of first rate soybeans.

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Last year, for example, men like your Gramps raised and harvested over 450 million bushels of these miraculous soybeans. And this year's crop is rich with promise of being even larger.

Archer-Daniels-Midland is proud as punch to have worked hand-in-hand with your Gramps to build this prospering soybean industry . . . to have helped create broad, strong markets for soybean products through its ceaseless search for new values from this great American harvest.

While Gramps was busy improving his fields and soybean yields, ADM has been busy, too. Continuous solvent extraction processing—which revolutionized the processing industry—was introduced to the U.S. by ADM. Innumerable industrial and bakery products from soy flour . . . 50% protein meal . . . and scores of new uses for soybean oil have come from ADM's faith in the future of the soybean.

And by the time you reach Gramps' age . . . well . . . you can bet your bubble gum that ADM will still be *Creating New Values From America's Soybean Harvest*.



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cient money to cover our needs for the current year, and we are also faced with the necessity of additional funds for the year which will start on Apr. 1.

The work load in the American Soybean Association central office has increased to the point where we must give some consideration to additional staff personnel. Our responsibilities in connection with the market development projects require that we have some one who can spend a large amount of time in the inspection of those projects, in the supervision of them, and in the preparing of the necessary reports and in doing the necessary followup work. These problems will be laid on the doorstep of your board of directors before they leave Minneapolis.

The 1956-57 fiscal year has, in many ways, been a very rewarding year. We have seen the Soybean Council of America become a reality. We have completed a year's work on our market development project in Japan, and can see definite results from the work done there. We have paid our way as we have carried on this work. But we must concentrate during the next year on building an increasing membership in

the Association, getting more of the producers of soybeans actually involved in the work of the American Soybean Association, getting more people interested in the work which is being conducted in their behalf.

The membership of the board of directors of the American Soybean Association has given unstintingly of its time during the past year. To Ersel Walley and Albert Dimond must go the sincere thanks of every member of this Association and every producer of soybeans for the time which they spent, with no remuneration, in Japan working on the Tokyo International Trade Fair exhibit and in reviewing the work of the Japanese-American Soybean Institute. To Ersel Walley should also go our special thanks for the exploratory work which he has done in other countries of the world, where possible soybean markets may exist as yet unexplored.

I want to point out again that never in my experience in working with organizations have I found a group of men who are so willing to spend of their time and effort in behalf of an organization, without thought of repayment, as do the members of the board of directors of the American Soybean Associa-

tion. Your president, Albert Dimond, has contributed tremendous amounts of time and money to further your interests. He has neglected his own farming operations in order that he might do so. Each member of the American Soybean Association and each man in the United States who produces soybeans owes a debt of gratitude to Albert Dimond for the work which he has done in your behalf.

To the nine men who have represented the American Soybean Association in the first year's operations of the Soybean Council of America we also owe a debt of gratitude. They have spent considerable amounts of their time working on organizational affairs, attending the meetings of the board of directors, and making contacts in behalf of the Council and therefore in behalf of markets for American soybeans.

To all of the members of the board of directors of the American Soybean Association who have served on committees throughout the year, who have taken their time to attend board meetings, who have made trips to Washington and done other footwork for the Association, we also owe a debt of gratitude. Until you have served on the board of directors of the American Soybean Association you have no conception of the amount of time which is required, and of the effort which is expended in behalf of the Association and of soybean producers. The men on the board of directors serve you well and they should have your sincere thanks.

To Kent Pellett, George McCulley, Del Cobie and the other members of the office staff who have made the accomplishments of the past year possible I want to extend in this manner my most sincere thanks. Their cooperation is appreciated. To all other persons who have in one way or another contributed to the work of the Association during the past year and whose names I have omitted I also want to extend my

personal thanks.

We trust that the year 1956-57 has been one of which you can be proud. I hope that when we meet for our 1958 convention a year from now we will be able to point with similar pride to our accomplishments during the next year. For the first time in history we now have the organizational structure of the soybean industry completed and we are on the threshold of big things. I hope we can exploit the potentialities. — Geo. M. Strayer, executive vice president and secretary-treasurer, American Soybean Association.

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### RESOLUTIONS

Reported and Adopted by the Convention

BE IT RESOLVED by the American Soybean Association in convention assembled in Minneapolis, Minn., Aug. 27-28, 1957:

We express our thanks to the many speakers, governmental and private, who have contributed their time and talent in appearing on our program, and we also thank all committees who have cooperated so well in preparing the program and making the necessary arrangements for the convention.

### **Trade Relations**

We urge continuance of Public Law 480 in developing foreign outlets for American farm commodities. We are gratified at the creditable



results of the Japanese-American Institute in the Orient and the work of the Soybean Council of America recently organized for the activities in European areas. We specifically commend the personal work of Ersel Walley, Howard Roach, Albert Dimond and George Strayer for their personal efforts in behalf of the soybean growers of the United States.

### Trade Fairs

It is apparent that exhibitions of soybeans and soybean products at agricultural fairs and shows in foreign countries are very worthwhile. We urge continuation of such participation by both the American Soybean Association and the Soybean Council of America.

### **Domestic**

Simplification of trade practices, especially for foreign trade, gives emphasis to the need of adopting the hundredweight standard as a trading basis for oilseeds and grains.

Commodity groups representing specific branches of agriculture are securing definite results in promotion of such commodities in marketing and public relations channels.

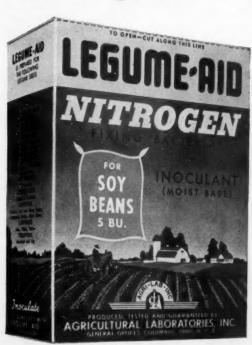


John Butterfield, chairman of the resolutions committee.

We recommend that the American Soybean Association, being such a commodity organization, participate jointly with other similar organizations for mutual benefit.

The American Soybean Association is interested in all programs for the utilization of soybeans as human food. Such products as soy based type human foods as prepared by the Meals For Millions Foundation and its Japanese Meals for Millions affiliate are typical examples. Soybeans are the cheapest source to supply the need of protein-starved people of the world. —John H. Butterfield, chairman, John Evans, Howard Roach, C. G. Simcox, O. H. Acom, Coleman Crews, A. E. Jolley, Earl M. Dean, Roger Gish.

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## Soybean Council of America, Its Aims and Its **Achievements**

By HOWARD L. ROACH

President Soybean Council of America, Inc. Plainfield, lowa

THE AIMS OF THE Soybean Council of America are to bring together growers, handlers, processors and manufacturers, with common interests in soybeans or soybean products, in order that the soybean crop may continue to expand under free

Now let us look at what has just been said, "To bring together growers, handlers, processors and manufacturers." I am glad to report that this has been partially accomplished. The growers, the processors, many manufacturers and many handlers are now giving wholehearted support to the Soybean Council of America.

There are some, of course, who have not yet been told the story and others who would rather wait and

annual

see how successful this operation will be before pledging their support, but every mail brings new individuals, companies and organizations pledging support to the Soybean Council of America.

Next, when we say "continue to expand," we do not know in just what proportion this expansion will continue. Certainly the expansion in the last 25 years has been phenomenal but so too have been phenomenal the many and varied uses found for soybean products.

With the growing population of the world and of our own United States, it is anybody's guess as to what the soybean business will be 25 years from today.

Third, let us look at the last part of the statement of aims of the Soybean Council of America under a free economy. Soybeans have won their place in the agricultural economy today, not through the incentive of high support prices, but rather through an active merchandising or marketing program. In order to keep expanding we must keep moving our annual soybean crop into consumptive channels, both home and abroad, and always remember that crops are grown to be consumed, not to be

The Soybean Council of America is embarked on two programs, one having to do with domestic economy at home, and the other with the exportation of soybeans and soybean products to overseas markets.

### **Active Programs**

First, I would like to speak of some of the programs now underway within our own country. The research committee of the Soybean Council is watching carefully and giving support to research that may provide the answer to the great saturated and unsaturated oil controversy that has been given so much publicity. Coordinating of research already being encouraged by the American Soybean Association, the National Soybean Processors Association and private companies among our various land grant colleges and with the U. S. Department of Agriculture and private research institutions, is going forward. Studies are being made as to additional avenues of research that seem desirable, and ways and means of having same instituted are being investigated by the research committee of the Soybean Council.

Your merchandising committee has been most active. Last winter, Ed M. James, oil consultant, was hired to make studies for the Council of all aspects of the soybean oil industry. His services were made available to the users of soybean oil, both at home and abroad. Food packers such as the sardine people, the tuna fish packers and others have been contacted, offering the services of Mr. James when needed. Many manufacturers of livestock feeds have been contacted and the merchandising committee is considering the advisability of engaging the services of a nutritionist to be of service to this segment of the industry.

Your committee has also contacted manufacturers of soy food products and is serving as a liaison committee between inquiries originating by the American public for certain soy products.

The industrial field has not been forgotten. Contact has been made with the National Paint, Varnish and Lacquer Association and many other industrial users of soybean products.

In other words, the merchandising committee is looking to every avenue where the future of soybean products can be expanded.

Your education committee has been instrumental in telling the story about the Soybean Council to the various members and to the public. They are also compiling a library of reference material for use both at home and abroad as well as a morgue of pictures that will be available to those people desiring to use pictures of soybeans and their various uses. Only the lack of sufficient staff curtails the activity of the education committee.

Less than a year ago, the Soybean Council of America wrote a contract with Foreign Agricultural Service to do market development work in certain areas of the world, principally Western Europe. I would now like to report on some of the developments of the Soybean Council's activities in overseas places.

Your president made a survey of Spain, Italy and the United Kingdom in December of 1956 and while in these places made plans for further market development activity. Returning to Europe in February of this year, I spent much time in contacting business organizations and government officials in Spain. An office was opened in Madrid and placed under the supervision of Mr. Javier de Salas, a Spanish national who has been working in the past for the American Embassy. Mr. de Salas is advisor to the newly formed extension director for agriculture and is an author, writing articles for one

of the leading Spanish agricultural magazines.

Your president has become well acquainted with Mr. Navarro, head of the olive oil syndicate, and a working arrangement has been perfected between the Soybean Council of America and the olive oil syndicate. Parenthetically, I would like to state that the olive oil syndicate is probably the most powerful of all Spanish agricultural organizations, being semi-official as far as government is concerned.

Dr. Fred R. Marti, who was assistant agricultural attache for Spain, was hired by the Council to head the office for Europe which is located in Rome.

Miss Audrey M. Capes was engaged as administrative assistant and the Rome office is now functioning under the direction of Miss Capes.

Plans were made for a display of American soy products with the emphasis on soybean oil at the Fair in Barcelona which was held June 1 to 20.

Ed James, oil consultant, arrived in Spain in the month of May and your president and Mr. James spent some time in field trips and interviewing various oil refiners in Spain.

#### Barcelona Fair

At the Barcelona Fair, arrangements were made with four Spanish companies that were engaged in the business of making potato chips, to make potato chips, frying same in pure soybean oil. These potato chips were given away at the Fair to all visitors and were received with great enthusiasm.

After the Fair, request was made by companies producing potato chips, for permission to use soybean oil exclusively in the manufacture of potato chips in the future.

The Council also provided soybean oil as the medium for cooking fried chicken at the exhibit sponsored by the poultry people.

Many important contacts were made at the Barcelona Fair, with important business concerns that can use and will use quantities of soy-

Also contact was made with many people and companies interested in importing and using soybean meal as a source of protein for livestock and poultry feeds.

Your president attended an Agricultural Fair at Verona, Italy on Mar. 10 to Mar. 19. Dr. James W. Hayward of Archer-Daniels-Midland Co., was also present to serve as nutritional advisor at this Fair. Many important contacts were made at the

Verona Fair that can lead to extremely good markets for soybean

The Council also cooperated with Foreign Agricultural Service in a Fair at Palermo, Sicily, May 24 to June 10. Dr. K. N. Wright of the A. E. Staley Co., was the nutritionist furnished by the industry through the Soybean Council to the Palermo Fair. Dr. Wright succeeded in making additional important contacts in south Italy.

The Soybean Council is participating in an Agricultural Fair at Salonika, Greece, beginning Sept. 1 and running through Sept. 12. Dr. Edward L. Stevenson of the University of Arkansas will represent the Council at the Salonika Fair and serve as nutritionist there.

A Fine Foods Fair will take place in Cologne, Germany, Sept. 28 to Oct. 6. Your president has agreed with Foreign Agricultural Service to be present at this Fair to represent soybean interests there. Much time and effort has been spent in planning for this Fair and materials are now aboard ship and on the way to Ger-

I want to take this opportunity to thank all industry people for the splendid cooperation given the Soybean Council as requests have been made for services and materials in carrying out the Fair operations this past year. The Council had but to ask and everyone pitched in to see that all road blocks were cleared and it indeed has been a pleasure for your president to work with such

I could go into great detail regarding ramifications of the activities as plans are being laid and dreams realized both domestically and in Europe. This report to you today is like trying to make a report on a horse race that has not yet reached the quarter post. I learned a long time ago that you can't spit in the ocean and create a tidal wave but I do sincerely believe that the program of the Soybean Council is sound and will have a great effect on the marketing of soybeans and soybean products. It can do one more thing. It can serve as a pattern for other commodity groups to come to the realization that crops are produced to be consumed, not stored.

Surely we have an ambitious program. Given a staff and time, we can make good on the old saying, "The impossible takes just a little

### **DePutter Reelected**

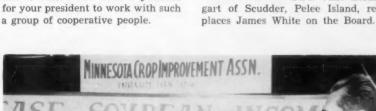
Gilles DePutter has been reelected chairman of the Ontario Soya-Bean

Growers' Marketing Board for another year.

Reelected vice chairmen were A. E. Jolley and D. A. McLachlin.

Richard Smith of Tilbury, Essex County, replaces Ernest Baldwin; and Jake Stein-

Gilles DePutter gart of Scudder, Pelee Island, re-





Council President Howard L. Roach (center) with Val Mollinedo, representing Foisa, Madrid, Spain (left), and Sr. Don Juan de Arespacochaga, manager Factories Oleicolas Industriales S. A., Madrid.



### **Developing Export Markets**

P. L. 480 is a useful temporary device. But our longrange objective must be maximum exports of U. S. farm products through commercial channels for dollars.

### By GWYNN GARNETT

Administrator, Foreign Agricultural Service, U. S. Department of Agriculture, Washington, D. C.

ALL OF US in agricultural work noted with some pride this past fiscal year (July 1956-June 1957) that U. S. agricultural exports rose to \$4.7 billion and set a new all-time record. The fact that you are exporting about one-third of your crop in the form of soybeans and soybean products contributed substantially to that record-breaking total.

Successful foreign marketing spells the difference between big surpluses and normal reserves.

I have been asked to discuss with you two phases of foreign marketing, as they apply not only to soybeans but to all agricultural commodities. One of these is Title I of Public Law 480, the program that permits sales of commodities for foreign currencies. The other is the foreign market development program. Under this latter program, the Department of Agriculture and various agricultural groups such as your own are working together to build long-term expanded export markets for U. S. farm products.

Before getting into P. L. 480, let's consider some of the background leading to this legislation.

Whether you're selling soybeans or anything else to a foreign customer, your U. S. exporter needs to be paid in dollars. Dollars are the medium

ASA's 37th annual meeting of exchange for American business. Therefore, the gold and dollar holdings of a foreign country are a barometer of that country's ability to buy from us. These

gold and dollar holdings vary considerably, from one part of the world to another. West Europe, which is our best customer for farm products, at present has gold and dollar holdings in the neighborhood of \$14 billion. But Latin American countries have gold and dollar holdings only somewhat over \$4 billion, and

Asian countries have considerably less. Their smaller gold and dollar reserves show up in their smaller purchases.

When Congress 3 years ago enacted P. L. 480, it was trying to meet two problems with one piece of legislation. One problem was how to move the big agricultural surplus that the United States had accumulated. The other was how to sell to the many foreign countries that needed our commodities but didn't have the gold and dollar holdings to pay for them. The program was set up as a temporary means of bridging the gap. Countries short of dollars could arrange to pay for our farm surpluses in their own currencies, with the U.S. government taking over the currencies and paying off our exporters in dollars.

As we all know, the export marketing of soybeans is being done for dollars. Soybeans have not been eligible for P. L. 480 foreign currency sales for the reason that they have been in heavy demand, both domestically and abroad, with most customers able to pay in dollars.

#### Oil Exports

The export sale of soybean oil is another matter. Countries in need of vegetable oils in many cases also are countries short on dollars. During the past 3 years, we have programmed 1½ billion pounds of vegetable oils. Most of this has been shipped. In the absence of this program, we can expect that our domestic vegetable oil market would have been in trouble.

Reviewing the P. L. 480 program, we find that through last June 30 farm commodity sales agreements totaling \$3 billion were made with 34 countries. Export shipments under this program accounted for nearly 20% of last year's agricultural exports. By commodities, shipments during the year included 195 million bushels of wheat, 14 million bushels

of corn, 20 million bags of rice, 1.4 million bales of cotton, and 665 million pounds of vegetable oil, of which 578 million pounds was soybean oil.

P. L. 480 also has two other features—barter and foreign donations. Each accounted for additional export movements of our farm commodities. In the aggregate, P. L. 480 programs last year accounted for 32% of total exports. For some commodities, the proportion was large:

Rice 81%; wheat 57%; cottonseed and soybean oil 47%; corn 43%; and cotton 30%.

#### Reaction Good

This tremendous additional movement of U. S. farm products was carried out carefully. There was surprisingly little adverse reaction in the highly-competitive world market. Two-thirds of the volume went to countries low in gold and dollar holdings, that otherwise would have been unable to buy from us; the other one-third was programmed above and beyond the normal purchases of other importing countries.

To keep the record straight on this P. L. 480 program, however, we need to keep one big fact in mind. That fact is that commodities sold for foreign currencies under P. L. 480 are not marketed, in the true sense of the word. American agriculture will be making a big mistake if it gears its exports permanently to a program like P. L. 480. Every sale under the program represents a loss to the American taxpayer. Every sale under the program leaves you leaning that much more on your government.

P. L. 480 is a useful temporary device. It was with our recommendation that Congress recently extended it for one more year, and authorized \$1 billion of additional funds to cover costs. But bona fide marketing is marketing for dollars, not for foreign currencies. Our long-range objective is, and must continue to

be, maximum exports of American farm products through commercial channels with payments in dollars.

Action is being taken under P. L. 480 and other programs and policies of our government to try to help these countries, which are currently short of foreign exchange, to become better cash customers in the future.

A large part of the P. L. 480 foreign currencies, for example, is being loaned to the countries for economic development purposes. Also, at the same time, a considerable portion of the foreign aid programs and loans made by the Export-Import Bank and the World Bank are aimed at improving the foreign exchange position of many of these countries.

Moreover, there is increasing recnognition in all segments of our economy that our purchases of goods produced abroad are the basis for a solid and expanded export trade.

This leads me into the second subject—market development.

What is being done to help build larger, continuing dollar markets for American farm products?

The P. L. 480 program has given us a useful mechanism to aid this objective, since it provides that part of the foreign currencies coming from sales of surpluses may be used for foreign market development. I do not want to leave the impression, however, that our market development work is tied entirely to P. L. 480. A great amount of activity in direct support of expanded exports is taking place-in the Department of Agriculture and in your agricultural and trade organizations-that has no direct tie-in with P. L. 480. One example is the continuing work to lower trade barriers so our farm products will have better entry to foreign markets. Another is the research done overseas by our marketing specialists and your trade people on marketing opportunities and foreign competition. A third is the informational and contact service provided American agriculture by our agricultural attaches at 54 foreign posts.

### Agreement with Council

But the foreign currency funds resulting from P. L. 480 export sales have provided the energy to set a number of specific market development projects in motion. Typical of these projects is the cooperative agreement between the Foreign Agricultural Service and your own association, as well as the agreement with the Soybean Council. Under your agreement, as you recall, your association is conducting market de-

velopment activities in Japan. You are working with the Japanese-American Soybean Institute to increase per capita consumption of soybeans and soybean products in Japan and to strengthen the competitive position of American soybeans. The Soybean Council has organized similar programs in Spain and Italy.

### **Cooperative Projects**

We have started 74 of these cooperative projects, in 26 countries. They include such leading U. S. export products as wheat, cotton, dairy products, soybeans, poultry, fruits, tallow, beans, feed, rice, seeds and lard.

Market development is a long-term program, but already we see evidence that these new projects are useful. Cotton's place as a leading fiber is being strengthened in Europe. Wheat is gaining greater acceptance in Japan. Countries short of milk are setting up recombining plants so as to use our dried non-fat milk and butter oil to supplement their own supply. The U.S. tallow industry has taken steps to maintain the uniform quality of tallow demanded by foreign importers. Through exhibits and samples at international trade fairs-in Europe, Latin America, and the Far Eastmillions of potential customers are getting better acquainted with our agricultural export products.

We have just concluded a year of record exports. We do not expect our agricultural exports this year will be quite as high. The maintaining of high level exports will be a real challenge. The job cannot be done alone by government, or by P. L. 480, or by special projects based on available foreign currencies. The job can be done only through a cooperative approach, involving in my opinion these four factors:

1—We need sound domestic programs that help, not hinder, the expanded export of farm products.

2—We need to participate actively in trade programs that give our farm products freer access for foreign markets. The reciprocal trade agreements program (GATT — General Agreements exports go on Tariffs and Trade) is the outstanding example. Today we are exporting 75% of our farm products to countries which, through trade agreements, have liberalized their attitude toward our farm products.

3—As long as we have severe surplus problems, we need special government programs. But our objective should be to work toward a balanced production that does not force the creation of surplus-disposal programs. These programs are difficult to handle, at best. They create strained international relationships, even when well handled. They make our American agriculture subservient to government.

4—We need to continue our joint efforts to aggressively build foreign markets for our farm products. But here again, private industry must take the leadership. The proper role of government should be that of lending a helping hand.

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### Soybeans Around the World

It would take 400 million bushels of soybeans to meet minimum needs of babies and growing children alone in the Orient.

### By ERSEL WALLEY

Past president and chairman of Market Development Committee, American Soybean Association

IT IS INDEED a pleasure and a privilege to report some of the observations made in a trip around the world, thinking and talking American soybeans.

Few visitors realize that the Hawaiian Islands have quite a number of soybean industries. There are



a number of soya sauces, tofu, miso and other soybean food products made in these islands. One of the better soya sauces is made under U. S. patents held by

a Hawaiian. It is of interest, too, that some of the Hawaiian tofu makers use Ogden soybeans proving that white tofu can be made from beans green in color.

Here, too, is an opportunity to learn how valuable the soya food products are compared to the cost of the soybeans, since the appreciation is in American dollars, a currency with which we are fully acquainted. I strongly recommend that any soybean fan visiting the Hawaiian Islands should not let the glamour of the climate and scenery obscure the romance of the soybean industry there.

The first more important objective of my trip was, of course, the setting up of the soybean exhibit at the Japan International Trade Fair in Tokyo. This exhibit was fully reported in the June issue of the Soybean Digest. My second objective in Japan was to observe firsthand the market promotion work being carried out by the Japanese-American Soybean Institute.

Even though Mr. Hayashi, the capable managing director of the Institute, is here to report on the activities of that organization, I feel compelled to make some comments which he in his modesty may omit. The first of these observations is the fact that there are very few men in the whole world who have had the

wide experience in the soybean industry that Mr. Hayashi has had, and under his direction our Association can claim a part in what I consider the outstanding foreign market development program undertaken for an American farm product.

The progress that has been made in the last year is phenomenal and yet is only background for what appears to me more tangible accomplishments. We were privileged to attend the first educational meeting held at "grass-roots." This meeting, too, was reported in the June issue of the Soybean Digest. With several hundred trained nutritionists carrying the soybean food story to the housewives all over Japan and with accelerated support from the Japanese manufacturers, increased consumption of and demand for soybeans is bound to result.

### Study of Soy Milk

Before leaving Japan I was asked to make a study of the production of soya milk which I undertook in Taiwan (Formosa), Hong Kong, and Bangkok. Our visit in Taiwan was confused but not thwarted by the riot which occurred the day we arrived. We were able to have conferences with the president of the Formosa Oil Seed Processors Association and other soybean tradesmen. Our stay also included visits in the countryside and to a soya milk plant which was established by our good friend and American Soybean Association pioneer, Dr. H. W. Miller.

In Hong Kong the "peek-hole" and gap in the Bamboo Curtain we found many small soya food producers and no doubt the largest and most successful soya milk plant to be found anywhere. Hong Kong is a focal point of soybean interest not because of any large consumption of beans there, but because this is where the so-called competition between soybeans from Red China and

the United States is said to meet head-on. Certainly, it is a listening post of vital interest to the entire soybean industry. May I voice my conclusion that Red China needs in its domestic economy more soybeans than it can possibly produce. Offerings on the world market must of necessity be moderate and made only for political purposes or in exchange for vital strategic needs.

The trip to southeastern and south Asia included good and sufficient visits in Thailand (Siam), Burma, India, and Pakistan. Of these countries, Pakistan is the only one that has soybean production of mention and here the total production is less than 1 million bushels per year. Strange to say, Pakistan, in the face of a desperate need of proteins and fats, still exports a few soybeans. Investigation revealed that this is the result of a lack of processing facilities and brings home the fact that we as American soybean growers are fortunate to have the fine processing facilities we enjoy here in the United States.

In the four countries which we visited there is a total population of 500 million people, 95% of which population subsists on a diet which is not only insufficient in quantity but very deficient in proteins and fats. Efforts to raise the standard of living in these countries are thwarted by the low rate of work productivity per man due to undernourishment and malnutrition. The worker then cannot earn more because of physical weakness and cannot buy more foods to increase his worth because of low earnings.

At this point may I explain that the sources of information and contacts which we made in these four countries were most varied and came from "every walk of life." Everywhere the well informed are interested in better nutrition and to them, the word "soyabean" is a magic word — a key word that

opened our way to countless sources of valuable information.

I feel that those who complacently state that "it has always been this way in those countries" and assume that it will stay that way are in for a rude awakening. A new generation with new ideas and aspirations is coming to the fore. Among those ideas is that the standard of living is tied to production efficiency and production efficiency and production efficiency is tied to human nutrition—among the aspirations is a determination to secure a more sufficient and better balanced diet.

In other countries in southeast and southwest Asia with a total population of 150 million people, the food and economic problems are similar to those of the countries we visited

From Asia we dropped into the Mediterranean Basin and here we encountered two very delightful experiences. We received a preview of the work being undertaken by the Soybean Council of America, and I want to take this opportunity to commend all those who have been identified with its inauguration. Howard Roach should be especially commended for setting up what certainly appears to be an effective organization, and his report to this convention should be of great interest.

### Crushers Meeting

The other delightful experience was our attendance at the meeting of the International Oil Seed Crushers Association in Rapella, Italy. If one adjective must be used to describe the appointments and proceedings of this convention, certainly that adjective would be "superb." You cannot imagine the thrill of hearing the masterful address by Dave Bunnell on behalf of the American processors and hearing read a message to the convention from Mr. Hirano, president of the Japan Oil and Fat Processors Association - here at one place were brought together contacts suggesting "Soybeans around the world."

May I assure the members of the American Soybean Association that the contacts which we made with the European Oil Seed Processors beginning in 1948 are genuine and warm. George Strayer has done an excellent job of nuturing those contacts. When these processors come to you and commend the efforts of the American Soybean Association to improve the quality of American soybeans and with unabashed frankness discuss with your representative their problems and plans I feel that we can be assured that real

friendship and confidence has been established—a relationship that must not be neglected.

In my report to the board of directors I conclude with "Soybeans around the world — America!" I qualify to make comments with the statement that I have spent some time in this country, too. Thus, I venture to summarize conditions around the world and discuss what all this can mean to American soybean growers as well as to American agriculture.

My emphasis upon the importance of developing a foreign market must not be interpreted as meaning that I feel that the domestic market for soybeans and soybean products in this country has by any manner been fully exploited. As an example, soya sauce could find a wide market in this country with the growing fad of grill and outdoor cooking. In Japan last year the soya sauce manufacturers used the equivalent of over 10-million bushels of soybeans.

Soybeans today fill a place in American agriculture that is not generally appreciated. Look at the processing, feed mixing, poultry and livestock industry made possible with protein from soybeans! Soybeans made the United States for the first time self-sufficient as to fats and oils.

Looking ahead I venture the assertion that enough further expansion in soybean acreage in this country could balance our agricultural production and bring real farm prosperity. To accomplish this desirable ob-

jective, we must develop markets abroad for our soybeans—and soybeans are the one product the world needs "worstest and mostest."

A glimpse at the potential market for soybeans around the world presents possibilities which may appear fantastic at the moment; however, these figures are proportionately no more fantastic than the actual expansion of the soybean industry in the United States in the past 20 years.

In Japan it is the conservative estimate of our cooperators there that the consumption of soybeans could easily double in the next 5-to-7-year period. This would result in an increased demand for as many as 40 or 50 million bushels a year. Dr. Webber, a former secretary of the American Soybean Association, now living in Japan, calculates the ultimate needs of Japan on the basis of 3 bushels of soybeans per person per year. He even goes as far as to suggest that with the Japanese knowhow, their resale market might develop in the Orient ultimately to the point where Japan could use as many soybeans as we are now annually producing in this country.

It is definite that Korea could use in its food economy at least twice as many soybeans as are now available—a potential market for at least 5 or 6 more million bushels of beans annually in that country. The soybean trades in Formosa need a minimum of another million bushels of beans—describing the need as "desperate."

In the four countries which we



Fumiko Miyagi of Japan, guest of the American Soybean Association at its Minneapolis convention, expresses gratitude to Minneapolis children whose penny-wisdom and penny-power sent 3¢ meals of Multi-Purpose Food (MPF) to flood victims in Japan. Alsee expressing interest in this new role of American soybeans as a liberator of malnourished people, Albert Dimond, president of the American Soybean Association. Displayed at the convention exhibit of the non-profit Meals for Million Foundation is the Freedoms Foundation medial it was awarded for "outstanding achievement in bringing about a better understanding of the American way of life" by distribution of MPF free in distress areas of the world. Miss Miyagl, a Tokyo art teacher and women's club leader, is president of the Japanese Meals for Millions affiliate.

visited in Asia are 500 million people in need of more proteins and fats in their diet. You can calculate the minimum needs any way you want, but it is conservative to say that 500 million bushels of beans wouldn't scratch the surface in meeting those needs. I do not include here another 150 million people in southwest and southeast Asia with identical food problems.

In Japan, I was impressed with the need of a better food for babies and children, a need which can never be filled by cow's milk, but which might be filled by the use of soya milk. To supply the minimum requirements, 1 quart a day, would require slightly over 11/2 bushels per child per year. If this minimum need for all the babies and growing children in the Orient were met, it would require no less than 400 million bushels of soybeans per year. On the basis of all these figures, our previous "dream estimate" for an American soybean production of a billion bushels of soybeans a year should be materially increased.

### **Temporary Market?**

The question then is: What is going to be done toward developing this potential market? We have already witnessed tangible evidence that something has been and will be done in Japan. I feel equally confident that an increased demand for soybeans and soybean products will result from the present efforts in the Mediterranean Basin and in Europe. I realize that there are those even in high places who are pessimistic about developing such a "dreamed for" foreign market for soybeans. I should like to remind them that when I left for Europe in 1948 to make a survey of that market I was warned in FAS that any market to be secured there would be temporary. Yet last year we exported to Europe something over 33 million bushels of soybeans, 265,000 tons of soybean oil and sizeable amounts of other soybean products.

The foreign market development work which should be carried out on behalf of American agriculture requires imagination and enthusiasm. The job will not be accomplished by anyone in or out of government operating in the haze of a "mental Iron Curtain." "Historical statisticians" are useful people but are often hampered by undue respect for the past. This job must be undertaken and carried out by the kind of men who make history and statistics. The job will require train-

ed men and money. We are all familiar with the repeated statement that the storage of surplus farm products is costing Uncle Sam a million dollars a day. At that rate the taxpayers of this country will have spent from 6:00 this morning until 12:00 tonight as much money for such storage as Uncle Sam spent in the entire fiscal year in foreign market development work—this includes both foreign and American currencies.

### Sitting, Complaining

Collectively, I feel that we have spent too much time in this country "sitting around on our surpluses and complaining." We need to get out and sell and sell for American dollars. This statement is not a disapproval of justified "giveaways" and sales made for foreign currencies. It is simply a long range realization that American agriculture must successfully compete for scarce American dollars around the world. I am convinced that currently there are a few billion dollars-I mean American dollars-being spent by countries around the world in the United States for merchandise which they need less urgently than food. I believe these countries can be convinced that American farm products are the one thing they need most to activate their own prosperity and raise their own standards of living. Furthermore soybeans are the cheapest known source of fats, proteins, and minerals. We as soybean growers have a decided advantage in this scramble for dollars around the

Research and efforts made to increase the efficiency of soybean production in this country should be matched with research and efforts to secure higher value utilization of the crop. Such research should be directed to fitting this valuable product to the needs and tastes of a hungry world. In this connection I immediately think of improving techniques for blending our domestic edible oils with olive oil-with peanut oil-a practical procedure in supplying an acceptable cooking oil at a reasonable price and for which there is a terrific foreign demand. Around the world there is a potential market for increased quantities of margarine and shortening. Improved techniques in the production of soya milk are badly needed, in fact more objective research in the utilization of soybean proteins in the human diet is needed all along the

Our objective in this program should be businesslike and if realized will pay off in two important ways. Your best friends in world affairs are those with whom you do business-those you buy from and those to whom you sell-delivering the quality you promise. I consider such an expansion in the sale of American agricultural products abroad a more effective means of combating communism than such goofy ideas as sending American students to India to study the Hindu religion or sending athletes to Australia to introduce the game of baseball.

Nearer home and nearer to our pocketbooks is the possible accomplishment of securing for the American farmer a greater degree of prosperity. Percentage wise we do not need to sell too much abroad to find a market for full and not curtailed production from our farms. Certainly the adequate development of our foreign markets is a challenge-but one that can be met. Convincing the hungry people of the world that they need our soybeans and soybean products should not be a more difficult job than one we have already accomplished here at home-namely, convincing the American public that they just cannot have a healthy dog or cat without the inclusion of soya products in their pet rations.

### **Don't Curtail Acres**

In the best interests of all American agriculture, American soybean growers should not consider curtailment of production. Likewise our American soybean manufacturing industries can well afford to take a longer range view in supporting this foreign market expansion program. They need general agricultural prosperity as badly as do soybean growers.

We must supply the needs of the foreign market as we find them—some countries can afford and will buy finished soybean products. Others must have whole beans and provide profitable employment within their own country for their own industries to meet the needs of their people. This whole program will fail if we insist on wringing the last cent out of every bushel of beans we produce in this country.

A great opportunity lies before us, and it should not be neglected. Believe me when I say that it is a real opportunity and not just a fantastic dream—even so, isn't it better that we be accused of dreaming fantastically than be found guilty of being "asleep at the switch?"

# The Japanese-American Soybean Institute

The Japanese know the quality of U. S. soybeans is improving. Mr. Hayashi expects every Japanese family to include soybeans in the daily diet as a result of the Institute campaign.

By SHIZUKA HAYASHI

Managing Director, Japanese-American Soybean Institute, Tokyo

UNDER AN agreement with the American Soybean Association the Japanese-American Soybean Institute was established in April 1956 and has been actually functioning since the first of May that year. Its purpose is to develop and expand markets for American soybeans in Japan.

The membership in the Japanese-American Soybean Institute is made up of the Japan Oil Processors Association, the Japan Soy Sauce Association, the Japan Miso Industry Association, the Japan Tofu Association, and the Oil and Fat Importers and Exporters Association—in other words all groups connected with the soybean industry in Japan. The American Soybean Association is also a member of the Institute.

In order to achieve the objectives the agreement provides that the Japanese-American Soybean Institute should carry out a variety of research and educational and promo-

tional work.



The agreement when it was first signed was for a period of 1 year with a total budget of \$75,000. This is equivalent to 27 million Japanese yen. These have

been allocated for the project by the Foreign Agricultural Service from Japanese yen funds reserved in Japan out of sales of American surplus agricultural products.

The work of the Institute under the agreement the first year was in the field of research. Hence activities of the Japanese-American Soybean Institute during that period were concentrated more on various research rather than on promotional work. The work and achievements for the first year ending Mar. 31, 1957, carried out by the Institute could be summarized as:

1—Our first task was to check cargoes of American soybeans arriving in Japan, because the shipments of American soybeans imported into Japan after the war had not been acceptable to the Japanese processors and consumers due to various factors. The biggest objection was to a big percentage of foreign material contained in American soybeans. It was unbelievable that such foreign material as stems, pods, corn, seeds of weeds, morningglory seeds, and dust had been included in shipments arriving in Japan to the extent that it required processors to install cleaners to remove this foreign material before processing.

Before the war when Japan imported soybeans from Manchuria it was not necessary at all to clean beans before processing.

The sizes of the beans were irregular and colored beans were included, which are all objectionable to our industry because, as you are now well aware, the beans are used only for food purposes in Japan.

### Checked U. S. Soybeans

The first step taken, therefore, was to make a complete survey on every vessel carrying U. S. soybeans to Japan.

Under our supervision a wellrecognized sampling and grading agency carried out this checking for us. A complete list of the results of the checking with detailed analyses to cover oil percentage, moisture percentage, foreign material and damaged beans was prepared and such reports were reported to the American Soybean Association. Complaints by the Japanese buyers and consumers had been so serious that without endeavors to check such shipments to Japan it would have certainly jeopardized the export trade in American soybeans to Japan. As a result of these checkings and the cooperation by those interested in the states, the quality of American soybeans coming to Japan has greatly improved, especially after the new grading standard was established in America in September 1955.



2-The next was an extensive study and research carried out by this Institute by our staff members on various soybean products such as miso, shoyu, tofu and natto. A 5-day tour was made in the Nagano district, the biggest miso area in Japan, where approximately 30% of Japan's miso is produced. Likewise shoyu factories, natto factories and tofu, including frozen tofu, factories have been visited. Information with comments by the respective factories has been studied and collected. Also methods of manufacturing these products have been studied and reports covering these various researches have been filed with the American Soybean Association.

3-In August last year, as many of you know, a team comprising representatives from our relative industries was made up and was sent to America to inspect and become acquainted with soybean production, handling, processing and grading in the United States. The expenses of this team were paid by our Institute. A full report on this visiting team was in the Soybean Digest. Upon return of this team to Japan the reports by the visitors were made public in a twopage newspaper. The result of this trip to the states was very successful as a promotional activity. From the fact of having sent this visiting team and its subsequent reports on its return, the Japanese people have come to know more about the Japanese-American Soybean Institute.

### Japanese Soybeans

4—A complete study on Japanese domestic soybeans was made based on reports made by Mr. Watanabe, former Ministry of Agriculture of the Hokkaido government, who is now working for this Institute.

5—Arrangements were made with a staff member of Oil and Fat Trade Newspaper in Tokyo who had been invited to visit Red China to report to our Institute on Chinese soybean

### Classes on soybeans in 800 Japanese health centers.

production and the present general situation in Red China. This report was prepared because it was considered important for the American soybean industry to know the degree of competition which American soybeans may have to face in world markets.

6—During the last two quarters from October 1956 to Mar. 31 this year various contracts were signed:

A-A contract has been signed with Kyoto University for research to be carried out jointly by the University and one of the biggest natto makers in Japan on a new method of manufacturing natto and also to discover new methods of manufacturing natto by using U. S. soybeans. In the past American soybeans were not considered suitable and therefore were not used in making natto. The actual result of this is still too early to be ascertained, but it is believed that desirable findings could be made which will eventually contribute to more consumption of U. S. soybeans in Japan.

B-Another contract was signed with the Japan Nutrition Associa-

tion which is a government agency belonging to the Ministry of Welfare under whose jurisdiction exist about 800 health centers located all over Japan, with a few nutritionists belonging to each center. This contract provides holding educational classes in various areas in Japan to give lectures on the nutritional value of soybeans and demonstrations of cooking to these nutritionists so that upon return to their respective centers they will be qualified to assemble people in each locality including women belonging to women's associations and wives of farmers to promote the use of more sovbeans in their diet.

C—Another contract has been signed with the Food Life Improvement Association which is also a government agency belonging to the Ministry of Agriculture and Forestry to carry out a program to encourage various agricultural organizations in different parts of Japan to use more fat and protein from soybeans.

A few of the first operations of these two undertakings were reviewed by Mr. Strayer, executive vice president of the American Soybean Association, in February and later in May by Mr. Dimond, the president of this Association, and by Mr. and Mrs. Walley of Fort Wayne, Ind. I believe they all are impressed by the way the educational work was carried out.

Early in December 1956 I had the opportunity to be present at the annual board of directors meeting of the American Soybean Association which was held in Chicago. The experiences and studies which I gained on that trip were recorded and on my return to Tokyo the reports were distributed.

#### Finance

The total budget for the first year allocated for this project was 27 million yen or \$75,000; out of this amount we spent approximately 21 million yen leaving a balance of a little over 6 million unexpended.

A new agreement was signed on the 3rd of April this year for continuation of the project for another 2 years with an increased budget of 108 million Japanese yen, which is equivalent to \$300,000 for 2 years.

The work and achievements made during the 5-month period since continuation of the project for another 2 years was approved in April 1957 are:

With the renewal of our contracts with both the Food Life Improvement Association and the Japan Nutrition Association as before mentioned and on the basis of research experiences gained in the previous budget year the Institute started to concentrate more in various public relations work.

Classes for the nutritionists as well as for the general consumers and various meetings in public halls to promote more consumption of soybeans and soybean products are extensively being carried out. Detailed reports of these undertakings are made to the American Soybean Association. A few reports by Mr. Walley during his visit to Japan are also being made which are reported in the Soybean Digest.

The production of movie film which was referred to previously has since been approved by FAS and is now in progress. This will be a documentary colored film in three rolls of about 2,400 feet long. The theme of this film involves grammar school children working on a special subject of soybeans in their practical science room. A few copies of script are being sent to

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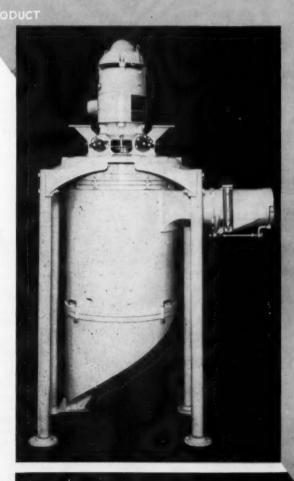
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the American Soybean Association.

In the research field a contract was signed with the Japan Tofu Association in conjunction with the Food Laboratory of the Ministry of Agriculture to carry out studies as to how to improve processing methods of tofu by using soybeans imported from the United States. There have been many hitches in manufacturing tofu when U.S. soybeans are used as reported by the tofu makers. A complete study is to be made to find out the reason with the aim to discover proper methods to use American soybeans for tofu making.

During this period one of the most important undertakings was the participation in the Tokyo International Trade Fair which was opened in May. A full report was made in the Soybean Digest. Mr. Walley was in charge of this soybean exhibit with Mr. Dimond joining later.

### Results

Japan did not know that America produced soybeans except in small quantities. Before the war we knew that Manchuria, China, was the only major soybean growing coun-I was in Manchuria more than 10 years before the war as an exporter of soybeans to Europe and to Japan. We imported about 1.5 million tons of soybeans annually from China. Production in China was then around 6 million tons. In 1948 I visited this country and was surprised to learn for the first time

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of America's huge production of soybeans.

After the war when Japan was still under the SCAP's control soybeans were not available from China. It was then that Japan received sovbeans from America for the first time in history. It is since then that Japan has gradually become familiar with American sovbeans.

However, soybeans coming into Japan right after the war were very bad. They contained enormous amounts of foreign material, wormeaten damaged beans, broken beans; besides sizes were irregular and color was bad. The quality of American beans was so bad that it gave Japanese users the impression that U.S. soybeans were not comparable with Chinese soybeans.

Everywhere we went we received complaints of foreign material. We went to survey the biggest miso producing area, visiting numerous miso factories. They received us politely but words were accusing. I have no intention of exaggeration but very often I was told, "Nothing doing with U. S. soybeans." It was the same with tofu makers.

Such was the situation when the Japanese-American Soybean Institute was established last year.

#### Situation Improved

After a year of research and work carried out by the Institute as explained so far the picture has greatly changed. Everybody in the soybean industry and trade now knows American soybeans. He knows that the quality he receives is quite different from what he had been receiving several years back and that the quality is improving year by year. He believes that as long as the Japanese-American Sovbean Institute has its office open in Tokyo he is safe in depending on the supply and quality of American soybeans. As long as the Japanese-American Soybean Institute exists he makes his plans to use American soybeans. He knows that as long as he receives the Soybean Digest Late News translated in Japanese, the Japanese-American Soybean Institute is active.

The moment the Japanese-American Soybean Institute closes its door the soybean industry and trade will be robbed of a guide and perhaps intention to make plans for buying American soybeans. The general public has been ignorant of soybeans with the big heading, "Everynutritional value. Now people are beginning to know about soybeans, the abundant source of protein and fat available at lowest cost.

My 4-year-old grandson tells his friends that "Grandpa is a soybean man." Kids in my neighborhood ask me to bring back soybeans.

A leading Japanese newspaper, "Asahi," printed an article on soybeans with the big heading, "Even Morning Miso Soup Depends on Imported Soybeans." What led this leading newspaper to take up soybeans especially in its important column?

A high school girl just before my departure wrote to the Institute saying that everyone in her class was required to pick up one subject on which to study and work and to make a report. Because she has found soybeans very interesting from a pamphlet she was given at the recent International Fair when she passed by the soybean booth she says she has decided to select soybeans for her subject and asks us to send her literature.

All these facts are the results of the various activities of the Japanese-American Soybean Institute.

On completion of the film which is now under production the reprints will be widely distributed and on every possible occasion the picture will be shown. I believe it will not be long before children will be lecturing their parents to eat more soybeans.

Demonstration of soybean cooking by kitchen cars touring all over Japan especially in the rural areas with nutritionists in charge is now being planned and as soon as it is approved by FAS the project is going to be started.

As the campaign, covering all these promotional activities, progresses I presume every family in Japan will make it a habit to keep a stock of soybeans for daily use. With the increasing population and on the basis of increased intake of fats and protein from soybeans through our promotion, requirements by the Japanese for U.S. soybeans may grow to a few million tons. Certainly your processors then will be obliged to bid against exports of sovbeans to Japan. It may be fortunate that Japan now is restricting the import of soybeans by giving a limited budget.

In order, however, to prove my conviction that our promotional activities do have results I like to see soybeans imported freely into Japan. Until then our promotional work will be more or less spade work. The task, however, of endeavoring to place soybean imports under a free import basis is not my direct re-

sponsibility.

As above mentioned the Institute has now come to the stage where we should concentrate on educational and promotional work. Public relations is of course important but unless it is backed up by really good quality it will not succeed no matter how seriously and energetically we concentrate on promotional work. The best publicity and propaganda is quality of the product.

I will do all the public relations work in Japan and you will do everything possible to supply good quality soybeans.

# Greetings from the Oil and Fat Manufacturers of Japan

Sees the possibility of greatly increased barter trade by Japan with China with fewer soybeans being bought from the United States.

#### By MITSUO HIRANO

President, Association of Oil and Fat Manufacturers of Japan

IN RECENT years the American government and trade people concerned have been doing much to increase exports of soybeans from America by improving the quality of American beans and also by meeting other wishes of importing countries, the result of which has been favorable and certainly commands our respect and cooperation. In this connection, I may mention the achievements of the Japanese-American Soybean Institute which was organized in April of last year under the mutual cooperation between the American Soybean Association and our five Japanese soybean trade groups. The activities of the Institute are being carried out smoothly and its programs are being gradually accomplished.

asas 37th annual meetina

Now I should like to spend a few moments on the recent soybean situation in Japan.

According to the demand-and-supply plan for the 1957 fiscal year

of the Ministry of Agriculture and Forestry, the total demand of soybeans in Japan for the year starting on Apr. 1 is estimated at 1,070,000 tons, of which 220,000 tons are to be supplied by the domestic soybean production and the rest is to be imported from abroad. In the plan of the Ministry the total production of the 1957 soybean crop in Japan is estimated at 490,000 tons, of which 270,000 tons are considered to be consumed by the growers themselves and the remaining 220,000 tons are expected to be sold on the

Of the 850,000 tons to be supplied from foreign sources, the preponderant portion of 610,000 tons are the raw material for the crushing industry and the rest is for other soybean food industries in the country.

As you know, Japan's soybean imports are still under the foreign exchange allocation system, and for the first half of the 1957 fiscal year 315,000 tons out of the above-men-

tioned total of 850,000 tons were allocated to consumers, who are expected to have already imported the respective amounts allocated to them. For the second half of the fiscal year, according to the original plan of the government, about 500,-000 tons of soybeans are to be imported from abroad. But in view of the shortage of foreign exchange that Japan has been experiencing in the past few months nobody can deny that the government may be forced to change its original plan and cut the amount of soybean imports for the second half.

In order to cope with the problem of the dollar shortage, our government, as you may know, is now negotiating with your government to use the loans from the Export-Import Bank of Washington for the importation of about 150,000 tons of sovbeans out of the amount to be allocated for the second half of the fiscal year. The negotiations may soon be concluded, I think.

The amount of Chinese soybeans that were purchased under the allocation for the first half of the fiscal year was estimated at about 70,000 tons. Up to last April the payment was made in cash sterling, but since then the trade has been placed on a barter basis. Importers of Chinese soybeans must export to China within a certain period the equivalent value of the beans in other commodities. This obligation on the part of the importers appears to work as a brake on imports of Chinese beans.

However, in view of the fact that the Japanese government has quite recently eased restrictions on a number of commodities to be exported to Communist China, the barter trade be-



Hirano's talk was presented by ichiro Kashiwagi of New

tween the two countries, according to general expectations, will be



greatly improved. Furthermore, the Chinese trade being controlled by the state, prices and quantity of exports can be decided from political viewpoints and there is no knowing what policy may be taken by them to increase their exports of soybeans.

Of course the quality of Chinese soybeans is not perfect in every respect, but still the very small percentage of foreign material and the shorter period of transportation give a favorable impression on the Japanese importers. This is particularly so when Japan is suffering from the shortage of foreign ex-

Rapeseed is the most important of all the oilseeds produced in Japan. The preliminary production estimate for 1957 is 270,000 tons, which is about 50,000 tons less than the production of last year. This decrease in production would mean a decrease of 17,000 tons in rapeseed oil, and if this decrease is to be compensated for by soybean oil, 100,000 tons of soybeans would have to be imported in addition to the original amount of 850,000 tons imports.

But as mentioned before, because of the present foreign exchange situation it is feared that the whole of the original amount will not be allowed to be imported within the present fiscal year. On the other hand it must be remembered that the increase of soybean imports can be attained by increasing our exports of soybean oil to overseas markets, for in case of soybean oil exports we can get an exchange allocation for the equivalent quantity in beans in addition to the normal import allocation.

I understand that an American soybean delegation will visit Japan this fall as a part of the activities of the Japanese-American Soybean Institute, and I believe that this kind of inspection tour is most appropriate and will certainly contribute much to deepening the mutual understanding.



# American Soybeans in Trade Fairs Around the World

Sixteen trade fairs in many parts of the world have demonstrated their value in U. S. agricultural trade promotion.

By GEORGE A. PARKS, JR.

Director, Fats and Oils Division, Foreign Agricultural Service

INTERNATIONAL trade fairs operate beyond boundaries of countries and areas in the world. They offer excellent opportunities for the interchange of commodities and products produced often in areas thousands of miles apart.

These fairs are a major means by which trades people in many countries do business. Some U. S. fairs are regarded as gala public occasions. But the trade fair abroad is a more serious event that brings buyers and sellers together to examine products and to carry on business. The chief objective of the fair is to demonstrate products of interest to industrial



users or the professional trader. The origin of this method of "seeing, tasting, and feeling" salable merchandise goes back to Biblical times or maybe before. Ac-

tually, the origin of fairs is unknown. Early fairs were usually held in connection with religious celebrations. The name derives from the Latin feria, meaning a festival.

There is nothing particularly new about trade fairs—but they are very new to the Department of Agriculture.

The idea of the Department putting on exhibits at the international trade fairs was to promote our export outlets and thus help to remove surplus agricultural production overhanging the markets.

You are all familiar with the background of our surpluses. They came about through a multitude of circumstances. But in addition to the usual list of increased yields, declining exports, and similar reasons must also be added a spirit of complacency in merchandising. With World War II drawing on our accumulations and the postwar era requiring a heavy volume of food exports from this country we were in-

clined to let selling take care of itself.

Next, when surpluses again started accumulating we were faced with the Korean situation and again a large part of our stock accumulations were taken up through increased demand here and abroad.

Recently, however, production techniques have further improved and people generally are realizing that if we are to produce abundantly we must also be in a position to consume and export abundantly. It is for this purpose that the Department of Agriculture entered into international trade fair work. The trade fairs, it should be explained, are not a merchandising scheme within themselves. They are most effective when combined with an active market development program in the countries where the fairs are being held. In other words, the trade fair might be considered more or less a showcase for displaying our market development activities and for bringing to the attention of traders and consumers alike the products which are available for export by American agriculture.

#### First Fair in 1955

The Department first participated in an international trade fair in October 1955 at Cologne, Germany. Since that time 16 agricultural trade promotion exhibits have been held at which total attendance has been more than 12 million people. These exhibits ranged from a small display at the Dominican Republic's International Fair for Peace and Progress to a complete American supermarket occupying 10,000 square feet at Rome's Third International Congress on Food Distribution, and a modernistic pavilion of 15,000 square feet at the 1957 Japan International Trade Fair in Tokyo.

In organizing exhibits, FAS works with private agricultural trade groups and other government agen-

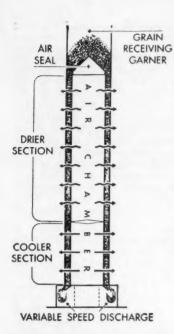
cies, chiefly the Department of Commerce. In general, the industry concerned provides exhibit ideas, technical personnel, display materials, and, in some cases, commodities for sampling. FAS organizes and manages the exhibit, arranges for design, construction and operation, and provides travel expenses of industry technicians and commodity specialists.

Costs are met through the use of foreign currencies acquired under Title I of P. L. 480 and through contributions from U. S. and foreign trade groups. Samples for distribution are furnished by private trade and on several occasions have been furnished by the Commodity Credit Corp. from its surplus stocks.

In areas where not enough foreign currencies are available for market development, exhibits are financed with dollars under a joint operating arrangement with the Department of Commerce. Under this plan, the Department of Agriculture pays certain Commerce trade fair expenses in foreign currencies. Commerce, in return, provides equivalent dollars for agricultural exhibits elsewhere. As an example of this cooperation, Commerce dollars will supplement the Department's Deutsche marks to make possible our exhibit next month at the food fair in Cologne, Germany. This is the largest fair of its kind in the world and I am glad to say that soybeans and soy products will be represented there.

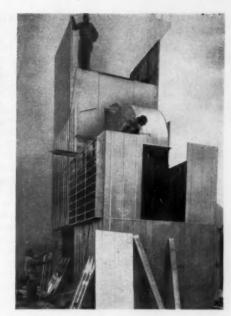
A wide variety of U. S. commodities has been displayed and in many cases distributed in sample form at these exhibits. The commodities include lard and meat products, citrus fruits and vegetables in various forms, soybeans and soybean products, dairy products, grain and grain products, cotton, tobacco, and poultry, in addition to many others.

Soybean and soy products have been displayed on two different oc-



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#### May mark expansion of mixed feeds usage in Europe.

casions in Japan, last year at Osaka and this year at Tokyo. At the Osaka Fair the American Soybean Association cooperated with the Foreign Agricultural Service in arranging for the exhibit which depicted the production of soybeans in the United States, plant breeding, handling, sampling and grading, as well as soybean processing and products produced therefrom. This year your Association was again represented in Japan at the Tokyo Fair. However, in this year's fair we began a new chapter in the promotion of foreign markets for this country's farm products. The Tokyo display was the first overseas market promotion exhibit in the Department's trade fair program in which foreign trade groups assumed major responsibility for promoting the sale of American farm commodities. The Japanese-American Soybean Institute, of which your Association is a member, cooperated with the Foreign Agricultural Service in presenting the ex-

I rather imagine that Ersel Walley and your president, Al Dimond, who attended the Tokyo Fair and did an excellent job for you, will want to discuss some of the details and consequently I will not attempt to elaborate further on these shows.

#### Work with Council

The Soybean Council has cooperated with the Department in preparing exhibits at 1957 fairs in Verona and Palermo, Italy, and Barcelona, Spain. Howard Roach, president of the Council, ably represented your industry at both the Verona and Barcelona exhibits. In addition, technicians from industry, government and colleges have taken an active part particularly in the feed shows. The Council is participating also in

a fair which is to open soon in Salonica, Greece, as well as the food fair in Cologne which will open next month.

I want to thank all of you for the excellent cooperation we are receiving from the soybean industry in these activities. Our Verona exhibit was a very interesting one which received wide acclaim in the Mediterranean Basin countries. It was primarily a feed exhibit featuring mixed feeds containing protein meals and five U. S. feed grains-corn, barley, oats, wheat, and milo. The display was pitched to show Italian farmers and others how more poultry meat and eggs can be produced at less cost through better poultry nutrition utilizing U.S. feed supplies. The show featured live poultry from incubation of the eggs to a display of laying hens. Turkeys were also exhibited. The response to the show was exceptionally good. There is considerable enthusiasm in Italy from both the government and private industry for an expanded poultry industry utilizing improved methods of breeding and feeding.

These exhibits could very well mark the beginning of an expansion in mixed feed usage in Europe similar to that which has taken place in this country. The value of such a development is self-evident to you as soybean producers and to the feed manufacturing industry.

The Verona exhibit was also shown in Palermo but with different technicians in attendance. This exhibit has been held intact, and there is considerable interest in maintaining it for periodic showings in the Mediterranean area. A somewhat similar theme is being followed in the exhibit opening next week at Salonica, Greece.

The fair at Barcelona featured soy-

bean oil since Spain has become the major market for U. S. produced soybean oil. Unfortunately, the Spanish oil needs are being met almost entirely through P. L. 480 and ICA programs. But it is our hope that in the future we can develop dollar markets in Spain for our soybeans and soybean products. Here again we find strong interest in protein feeds and expanded poultry and livestock economy but developments in this field may come slowly in Spain as a result of its dollar shortage.

The FAS trade fair schedule is now being worked up for the months ahead. One showing that is definitely scheduled is a return trip to Osaka for the Japan trade fair in April 1958. We hope that the Japanese-American Soybean Institute will be with us again on that one. There are not many other Asiatic fairs so a decision may be made to build the Osaka exhibit in demountable form so that it can be taken to other countries as a U. S. "sole show"-that is, an exhibit of U.S. products separate from an international fair. A "sole show" is also a possibility for Latin

For Europe, several of our Commodity cooperators have shown interest in a program of mobile exhibits, where each commodity has a self-contained display housed in an expansible trailer. We could then show a single commodity around an individual country in a definite campaign, or several trailers could be brought together to provide a complete exhibit for a large fair.

In Europe, too, we have the poultry feeding exhibit in Palermo which I mentioned previously and which can be used as needed.

The future of trade fairs, of course, will depend on how effective they

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are found to be in our merchandising program. It is too early to accurately judge just how effective they have been in promoting our agricultural exports. It seems to me, though, that the value of trade fairs as an instrument of trade and trade promotion has been more than adequately demonstrated. After all, they have survived for several thousand years and I am inclined to feel that if they are not effective, they would have long since passed from the scene.

Therefore, if trade fairs do not prove effective in our overall merchandising scheme, it will probably be due in large part to our shortcomings in developing our exhibits and presentations in such a way as to capture an increasing export market.

I believe that we may find it necessary to get active traders more interested in fairs because the initial purpose of trade fairs was to actually trade. We must also strive to improve our exhibits to insure maximum viewer interest in our products.

We have a lot to learn in the field of international trade promotion and you as soybean producers and others interested in the soybean industry are going to find it necessary to further expand your activities in this field. Also, you should endeavor to continually improve the quality of your products, to deliver them to customers in the best possible condition and to adjust grade standards and handling and trading practices as warranted to maintain and expand markets. I think that our cooperative efforts in trade fairs can be an important tool in attaining this objective. After all, sellers have used trade fairs for centuries to merchandise their products. There is no reason why we as sellers should not also make maximum use of them for this purpose.

# Represents Council At Salonika Fair

DR. EDWARD L. STEPHENSON, professor of animal nutrition at the University of Arkansas, Fayetteville, will represent the Soybean Council of America, Inc., as a feed nutritionist at the International Trade Fair in Salonika, Greece, Sept. 1-22, it has been announced.

The Council is sponsoring an exhibit demonstrating the usage of



Edward L. Stephenson

U. S. soybean oil meal as a livestock feed at the Salonika Fair.

Dr. Stephenson left the United States Aug. 26.

The Council will also sponsor an exhibit, mainly of U.S. soybean oil, at the International Trade Fair in Cologne, Germany, in October.

Dr. Stephenson is head of the nutrition section of the department of animal industry and veterinary science at the University.

He teaches courses in feeds and feeding, and his research work is concerned chiefly with poultry and swine nutrition.

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# American Soybeans and Cottonseed in World Markets

It is to be hoped that the soybean industry does not make the same mistake cotton has made, in adopting a high support program.

By DUPUY BATEMAN, JR.
President, National Cottonseed Products

THE SOYBEAN and cottonseed industries share the job of providing by far the greater part of the edible vegetable oils and the oilseed meal consumed in this country. In addition, they supply other countries with enough oil and meal, including the content of soybeans, to make the United States the world's leading exporter of both.

In this job of providing for domestic and world needs your industry has in recent years played the major role. Cottonseed was formerly this country's principal supplier of vegetable oil and oilseed meal but the miraculous growth of your industry has caused soybeans and soybean products to surpass cottonseed and cottonseed products by a wide margin. This growth has enabled the United States to become the world's great exporter of fats and oils instead of being, as it was as recently as 1940, a net importer. Your greatly expanded oilseed meal production, by providing our livestock and poultry raisers with an economical highprotein feed supplement, has helped to attain an even higher standard of living in what was already the bestfed nation on earth.

It is worthwhile to speculate a little about the bases for your phenomenal growth.



I suppose that the basic reason for your success is that your product was ideally fitted both to your climate and to your terrain. We who are associated with cot-

ton have in recent years become very conscious of the importance of terrain, for we have learned that our production is most efficient on land level enough over wide enough areas to permit use of the improved agricultural techniques that have, during the very period of your industry's rise, transformed so much of American agriculture.

To suggest that your success is basically due to climate and to a terrain that permitted you to capitalize on the revolution in agricultural methods is not to overlook the more personal factors in the outcome. Phenomenal growth such as yours bespeaks astute and efficient growers. It demonstrates that your splendid association has provided intelligent and constructive leadership. The collaboration and cooperation which you have enjoyed with the industry that processes your soybeans has likewise been a factor. You have been helpful to each other and your great progress is evidence of the profitableness of working together in harmony

#### **Both Old Products**

Now I have not enumerated these factors contributing to your success simply to be polite. The fact of the matter is that I could say many of the same things about the cotton industry, of which cottonseed is a byproduct. Yours, after all, is an old product in a new area. What is sometimes overlooked is that cotton's production history, in this same period of your own rapid growth, has also been that of an old product moving into a new area in search for a more productive terrain. Soybeans, it is true, moved into your Middle West all the way from the Orient whereas cotton, which had long been grown in the old South, reached only into the Southwest and the Far West. But the results have been similar.

There is no need here to recite yields in this new area of soybean production, but you may not know what happened to cotton when it moved West. In 1956 the average yield per harvested acre in the newer, level, irrigated and intensely-cultivated areas of the West and Southwest was more than three times the yield in the long-established older areas if you except the level alluvial soils of the Mississippi and a few other river bottoms which are al-

most ideally suited to efficient cotton cultivation. As recently as 10 years ago the Western areas of which I speak produced but a fraction of what they produce today.

If my analysis is correct, the factors that made our two crops successful in new areas were basically the same: favorable climate and a terrain that permitted astute and efficient growers to take advantage of the revolution of agricultural techniques that has marked our generation.

But for all this similarity in the forces that operated upon production in our two industries, they stand today in quite different positions. For one thing, your industry is free and expanding whereas ours is regimented and contracting. You will understand that in saying this I am talking about cotton generally. Nobody produces just cottonseed. It is strictly a byproduct of the growth of cotton fiber, and when acreage is restricted in order to control the supply of the price-supported fiber, the whole industry-including the part primarily interested in cottonseedis cut back correspondingly.

Another difference between our two industries is that your product has always moved into consumption whereas the most valuable part of our growers' product—the lint or fiber—has moved in significant part into Commodity Credit Corp. inventories. There is no more dramatic way of citing this difference than to quote from a speech made a little more than a year ago by Secretary Benson:

"Cotton programs, intended primarily to support prices and incomes of cotton growers during the past 23 years, resulted in a net realized cost to the government of \$1,603,000,000. This excludes losses, presently unknown, which are almost certain to be experienced on the \$2.5 billion worth of cotton now owned or under loan to the CCC. By contrast, the soybean price support program dur-





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#### "Cotton has resisted the agricultural revolution."

ing this same period resulted in a net gain of nearly \$4 million."

Remember that the Secretary said this more than a year ago! If he were making the same speech today, he would have to report the total "realized loss" on cotton to be well over \$2 billion.

Cotton is not the only commodity in this unhappy position but it has somehow become "chief whipping boy" for the apparent failure of the present type of agricultural program. Cotton is being held up far and wide as a horrible example of what happens to commodities which the government supports at levels that simultaneously price them out of markets and encourage further production. An editorial which appeared in Life Magazine in May is typical, and I will take time to quote from it:

"This program is causing cotton to strangle itself to death. When the consumption of everything else in this growing land has been rising, cotton has been standing still by comparison. In 1930 it made up 85% of all fibers used by Americans; last year it made up only 66%."

I can add to this discouraging story the facts that during the last 25 years—roughly the period during which we have had support legislation—foreign production of cotton and world production of synthetic substitutes for cotton have each increased by an amount larger than the entire U. S. cotton crop harvested last fall. On the face of things, U. S. cotton has lost two-thirds of its po-

tential markets to foreign growths and artificial fibers. You will not, in these circumstances, be surprised to learn that this current season cotton will have the smallest acreage since 1878—approximately 14¼ million acres.

I perhaps should remind you once more that I have so far been talking about cotton generally. I shall come to cottonseed in a moment, but the point I have endeavored to make is that while the two industries we here represent-cotton and soybeans -have enjoyed the same opportunity to profit from our generation's revolution in agricultural techniques, yours has taken full advantage of that opportunity whereas cotton, by accepting the acreage limitations that go with high price support, has in effect resisted it. Cotton production has been restricted in new, efficient areas in order to preserve it in older, less-efficient areas.

#### II

I come now to cottonseed as such. The important point here is that cottonseed is a byproduct. It accounts for only a fraction—perhaps an eighth and in some years as little as a tenth—of the gross income from cotton growing. This fact is important in any understanding of the supply of edible oil and oilseed meal.

It means, first of all, that the supply of cottonseed is primarily governed by the prospects and conditions that affect another commodity, namely, cotton. In recent years,

when restrictions have been shrinking the cotton grower's acreage, the supply of cottonseed has been governed by the same limitations imposed to restrict the supply of cotton. If cotton were free of acreage restrictions and its price made its cultivation attractive to the grower, he would substantially increase the production of cotton, and incidentally of cottonseed, even though oilseed prices were at the time disappointingly low.

#### **Cottonseed Secondary**

Cottonseed, in short, is the tail on the dog, which in this case is cotton. And it is the dog that wags the tail! The significance of this for soybeans can be illustrated by a situation that I hope will never actually occur. In that situation oilseed growers, in order to prevent prices from falling to levels that would bring supply and demand into balance, and undeterred by experiences like those I have described for cotton, would agree to accept acreage limitations.

Acreage limitations could not be applied to cottonseed. As I have said before, nobody raises just cottonseed. Cotton is the primary product, and if acreage is in the future to be limited in the cotton industry it will be because of the supply of cotton and not of cottonseed. In the oilseed industry acreage limitations would necessarily fall on soybeans.

The particular situation I have just described exists, thus far, in theory only, and as I have said, I hope it remains nothing but a theory. You in the soybean industry have enjoyed price support without the burden of acreage limitations or apparent cost to the taxpayer. Support of cottonseed, on the other hand, has been a thoroughly unhappy experience both to the cotton industry and to the taxpayer. The Secretary of Agriculture reminded us of this recently when he told our National Cottonseed Products Association that, and I quote him exactly:

"The 5.2 billion pounds of oil, meal and linters moved since mid-1953 have been at a net loss of close to \$130 million."

He was talking about cottonseed products: cottonseed oil, cottonseed meal and cottonseed linters; and in effect he charged the loss to the cotton industry.

My opinion is that it is unfair to charge the cotton farmer alone with this \$130 million. Cottonseed is, as I have said, a byproduct. It is the

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byproduct, moreover, of a product under severe acreage restrictions. The production of cottonseed has remained in the neighborhood of 6 million tons for the last several years. Soybean production meantime has increased from around 9 million to nearly 14 million tons. Yet it was cottonseed, whose production had been held constant, that showed up in Commodity Credit Corp. stocks as "surplus" while soybeans, whose production had grown in a few years by some 50%, moved into consumption. The oil and meal products of our two oilseeds are sufficiently interchangeable to make them highly competitive. I would like to suggest that if there was a surplus of oilseeds that had to be taken off the market to maintain announced support levels, that surplus was created by the increase of soybean production rather than by the bare maintenance of cottonseed production.

#### Soybeans Benefited

During the period when the Commodity Credit Corp. was accumulating cottonseed products, soybeans were, as you will recall, also being supported. Cottonseed and soybean supports were set at levels intended to make them competitive. But because support levels remain rigid for an entire year, because markets fluctuate, because of the larger amount of meal in soybeans, because the linters and hulls in cottonseed are not common to soybeans—for one or more of these reasons it invariably works out that one oilseed actually supports the other.

It turned out during the period of the Commodity Credit Corp.'s accumulation of cottonseed products that it was cottonseed which supported soybeans. Cottonseed, which was under acreage control, thus supported soybeans, which were not under acreage control; cottonseed, which produced less oil and much less meal, supported soybeans, which produced more oil and much more meal. It was the removal of cottonseed products from the market that made soybeans more valuable. Some part of the \$130 million that the Commodity Credit Corp. lost on cottonseed products was for the benefit of soybeans.

This may seem an unpleasant assertion, and the only justification for making it is that the truth it contains can be useful in the appraisal we must continuously make of this

oilseed industry's future. In one sustained and recent period cottonseed relied directly and soybeans indirectly on price supports for the maintenance of market prices. The shape of events at the time may have blinded us to this. As a matter of fact, there is considerable evidence that the total product of our two industries is even now large enough to strain our normal marketing outlets. This appears to be particularly true of oil. I refer, of course, to the extent to which we, in recent years, have relied on the outlets afforded by P. L. 480. I shall speak of that in greater detail shortly, but first I wish to draw attention to two developments which promise for the future even greater supplies of oilseeds. One involves soybeans; the other, cotton.

We are accustomed to think of soybeans as a product of the Midwest. What just now impresses us who live in the cotton-growing South, however, is the extent to which soybeans are penetrating into our area. Soybeans have become an important crop in the cotton-growing areas of North Carolina, Arkansas, Missouri and Mississippi. In these areas soybeans not only have become a profitable crop, but have proven to be

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There is good reason to believe that soybeans will soon become an important crop on the High Plains of Texas, one of the major cottongrowing areas of the world. By careful experimentation and seed-breeding, soybeans may become similarly adapted to other Southern and to Western areas where presently they cannot be grown profitably.

As this comes about, the fundamental partnership of our two industries will be dramatized in cotton-growing areas on an ever broader scale by the sight of the two crops growing next to each other, by the spectacle of the two seeds moving into the same mills, and—as of course is true now—by the products moving into the same markets. But the point I wish particularly to make is that there will be more soybeans.

The development that involves cotton is of another character. I have recited to you the misfortunes that have attended our crop as the consequence of prices being supported at levels which required acreage restriction. The lesson these consequences teach is slowly but surely being learned, and whether it happens next year or several years from now, the release of cotton-growing from the restraints of recent years seems inevitable. The result must be an increase in the production of cotton and, with it, of its byproduct, cottonseed. This, joined to the supply of soybeans resulting from the extension of their culture into



the South, must—even if from this point on you in the Midwest stand completely still—be an increase in the total supply of oilseeds and therefore of their products. And I am sure no one expects you to stand still!

#### Ш

I think it will now prove useful to examine how, in the face of continued supports and substantial yearly increases of our combined production, we have these last few years managed to escape accumulation of oilseeds or their products in Commodity Credit Corp. inventories.

Two important reasons appear fairly obvious. One is that the Commodity Credit Corp. lowered the support prices for both soybeans and cottonseed. This allowed the products of both to move at price levels that increased consumption.

The other reason, and perhaps the more important one, is that in 1954 the Congress enacted the Agricultural Trade Development and Assistance Act, commonly known as P. L. 480. Under the terms of this Act surplus agricultural products are sold abroad for payment in the currency of the buying countries. More than this, payment is largely deferred, and by agreement the currency involved may be lent or even given back to the buying country.

#### Sales by P. L. 480

Many things can be said pro and con about P. L. 480. One of its outstanding virtues is its reliance on established, private trade channels. But its purpose was clearly to afford special and even exceptional facilities for disposing of agricultural surpluses. Whatever its virtues or shortcomings, if it were not for P. L. 480, and if reliance had been placed upon normal markets alone, fewer agricultural products—including ours—would have been sold abroad.

Now, the Department of Agriculture has aggressively programmed soybean and cottonseed oils under P. L. 480. Some of the cottonseed oil that Commodity Credit Corp. had accumulated as surplus moved in 1955 under P. L. 480. Last season approximately 9,500 tank cars of cottonseed and soybean oils-the oil equivalent of 1.7 million tons of cottonseed or 55 million bushels of soybeans-moved into export under P. L. 480 programs. During the season now drawing to a close, it is estimated by reliable sources that at least another 10,000 tank cars of cottonseed and soybean oils will be so exported.

Whether this large movement of oil under P. L. 480-or for that matter, P. L. 480 itself-is fundamentally sound is something I don't propose to discuss at this time. My concern is only to suggest that on the basis of the record so far, and without any of the increase of production I have said may be ahead of us, we show up in recent years as industries which either require the taxpayers to purchase our products and resell them at a substantial loss or as dependent on special export programs, also at some considerable cost to taxpayers.

What would happen if, for example, a more economy-minded Congress were drastically to curtail or discontinue P. L. 480 operations? P. L. 480 is already proving expensive, and we have not yet had time to determine what those foreign currency payments are really worth. There is always the hazard that any special arrangement, like P. L. 480, may be as suddenly taken away as given.

At this moment we appear to stand in no immediate danger. The levels of support that have been announced do not seem unreasonably high; P. L. 480 has just been extended for 1 year and with increased resources; and if the August government estimates were correct, 1957 crops of both soybeans and cottonseed are a little smaller than in 1956. But if the shadow seems for the moment to be lifted, the danger itself remains.

The time may come, and it need not be long in coming, when we shall no longer be shielded from the consequences of excess production. The supply of oilseeds may increase to the point where it is too great a burden for P. L. 480 to bear or the Congress may whittle away at that law or even refuse to extend it. In either case we shall have some hard thinking to do. Will we then be content with prices low enough to bring supply and demand into balance, or will we insist on high support prices?

We may have this "hard thinking" to do anyway. The whole basis of existing farm legislation is now being questioned, and the prospect is for thorough congressional review and probably for fundamental revision.

#### IV

There are two observations—one specific and one general—that I would like to make in closing.

I would hope that the legislation under which we shall hereafter operate will be free of provisions that could set our two industries at odds with each other. There is at present on our statute books one provision that could have just this effect. It is Section 203 of the Agricultural Act of 1949 as amended, which reads:

"Whenever the price of either cottonseed or soybeans is supported under this Act, the price of the other shall be supported at such level as the Secretary determines will cause them to compute on equal terms on the market."

Now nothing could appear more reasonable than this. "To compete on equal terms" is, on the face of things, about all that anyone could ask. But, for the reasons I have previously cited, when supports are operative one oilseed inevitably supports the other. I have told you that in 1953-54 cottonseed supported soybeans; it might be argued that the more recent seasonal movements of soybeans into the loan have from time to time helped to support cottonseed

#### The Temptation

Each of our industries would in a situation like this be tempted to urge that support levels be set in such a manner that the other's oilseed would support our own. Your representatives would naturally hope that any accumulation of oilseeds

CLASS

or oilseed products by CCC could be made to take the form of cottonseed oil and cottonseed meal while cottonseed's representatives would as naturally hope it would be soybeans. The stake or prize in the contest would be the ability to claim that one's own industry was costing the taxpayer nothing. The irony from your viewpoint is that whichever of the oilseeds accumulate in CCC inventories, any acreage restriction imposed to prevent further accumulation would have to fall on soybeans.

I think our two industries have more important things to do than to contend with each other. We should never, as this Section 203 almost invites us to do in certain circumstances, waste our energies promoting the movement of each other's oilseed into CCC inventories. It is my belief, and I am sure it is yours, that our proper job is together to move our products into trade channels.

But be this as it may, my primary hope is that you in the soybean industry do not make the mistake that an increasing proportion of the cotton industry is now prepared to admit it has made. Under a regime of high support prices you would be as vulnerable to competition as cotton has in bitter experience found itself to be, and it would in this scientific age be a bold person who would flatly deny the possibility of competition from some entirely new source. High support prices always repress and they sometimes destroy demand; they stimulate production, and experience is that the stimulus is not offset by acreage restrictions; finally, high supports require U. S. taxpayers to buy some part of the recurring supply of the supported product.

This is not a pleasing picture, but the cotton industry has learned by hard experience that it is a true one. It is my hope that when a choice has to be made-whether because we are ourselves confronted by excess production or because we are called on for opinion as Congress restudies the whole farm programour oilseed industry will be found arrayed on the side of free production and free markets. I feel confident that it will, for we have each in our own way learned by experience: you, in soybeans, by reaping the benefits of freedom; we in cotton, by suffering the consequences of restriction.



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# The Soybean Outlook

Prospects are that soybean prices will average about the same in the coming year as in the past, with meal a little higher and oil selling for a little less.

#### By FRANCIS A. KUTISH

Department of Economics and Sociology, Iowa State College

IT IS VERY difficult to get hold of the soybean price outlook—in fact, it is perhaps the most difficult of all the Midwestern farm products.

The price of soybeans is affected by support prices, processing margins, the world oil situation, speculation and the livestock and feed situation. Also, the amount of soybeans exported affects the outlook signifi-

ASA's 37th annual meeting cantly. And much of what happens in the export business depends on governmental decisions. And governmental decisions are notorious in being difficult to forecast. Since

soybeans are a joint product—they are used to make oil and meal—one of these products may have a strong outlook and the other a weak one.

Finally, there is the problem of the exact size of the soybean harvest. No other Midwestern crop must be accounted for, down almost to the last bushel. The soybean crop is almost entirely crushed or exported during the year, and there is a good check on the size of both of these uses. The carryover forms a very small portion of the year's crop. In some years there is practically no carryover. Thus, any mistake in the estimate of the size of the crop-and we must remember that crop estimates are estimates, not actual count -shows up toward the end of the year. It can bring a sudden change in the whole picture.

This is quite forcefully illustrated at the present time. The table below

Table I. Soybean balance sheet (Million bushels) 1955 1956 1957\* Oct. 1 stocks... Production .... 18-35 (?) 374 456 (438)\*\* 460 (442) Supply .... Uses Seed 315° 80° Crush .. 283 315 Exports 67 18-35 4 10-15 \* Estimated, based on Aug. 1 crop report.

\*\* Approximate size of crop if July 1 stocks
are used as basis for calculating 1956 soyshows the balance sheet for 1955 and 1956. The 1956 figure is based on the Dec. 1, 1956, crop report of 456 million bushels last year.

The July 1 stocks estimate of 87 million bushels of beans on hand as of that date is about 30 million bushels less than you would expect based on the uses and exports from a 456-million-bushel crop. The discrepancy is partly explained by the amount of 1955 crop beans which were exported and processed in September of 1956. But there is disagreement between the USDA and the soybean processing trade over the amount of this. The USDA claims it totaled around 12 million bushels -the trade says its figures won't account for this much.

#### **Crop Overestimated**

When you add it all up it appears that the 1956 soybean crop was overestimated last year. If so, it would cut down the amount of carryover on Oct. 1, 1957, from around 35 million bushels down to around 18 million bushels.

Let me insert a word here about the crop estimates. These are estimates, not actual count; and we often have revisions of these estimates later, when other data which can be used to better check the original estimate is available. Yet, this underlines the question as of today: How can you forecast or project ahead for 1957-58 if you have no solid benchmark of where you are now, to stand on?

The 1957 soybean crop may be even more difficult to forecast than the 1956. Soybean crop prospects are spotty this year and the crop will be late. The Aug. 1 crop report indicated a crop of around 428 million bushels; but yield prospects in much of the Illinois soybean area are uncertain. Sixty percent of the soybean area of that state has been troubled with wet weather. On the other hand, the crop looks very good in

parts of Iowa—in fact, much better than a year ago in the central and western part of the state.

Yet we have to use some figure and the Aug. 1 estimate still is our best at this date. So we'll start out with an estimate of the 1957 crop at around 428 million bushels and a carryover of around 18 million bushels. If this crop figure of 428 million bushels sticks then the uses and exports during the coming year will be approximately equal to what they apparently actually were during the past year. This is an important point. It would give us a supply in the neighborhood of 446 million bushels and our supply last year apparently was actually in the neighborhood of 442 million bushels.

Of course the Aug. 1 crop estimate can be changed. We planted 21,-650,000 acres of soybeans this year. That's about 725,000 more acres than in 1956, or an increase of 3½%. Last year's yield per acre averaged 21.8 bushels according to the Dec. 1 crop report. On Aug. 1 this year's average yield was pegged at 19.8 bushels per acre.

Now let's turn to the demand side of the picture. Beginning with oil we must turn to the world market. Much of our soybean oil exports are shipped under Public Law 480. This is the government program which promotes the sale of items in surplus through the use of foreign currency. Here we find that our soybean oil and beans are likely to face more world competition than a year ago. Italy has a much better olive oil prospect after 2 years of poor crops. Spain had a good olive oil crop. The Philippine copra crop will be fairly large; Canada and Argentina have good flaxseed prospects; world supplies are large. Holland has a good rapeseed crop-so the prospects for Holland buying are not as good as last year. The Manchurian situation is a question mark. We have worried about it in the past

bean crop size.

but so far nothing drastic has happened. But there is always the possibility of Manchurian beans coming on the market and displacing part of our world outlets—particularly Japan.

In this country, due to the smaller cotton crop, we will have less cotton-seed oil to compete on our domestic market. We'll also have a smaller flaxseed crop—but still in excess of our domestic use. Lard output may be a little larger. The fall pig crop will be up 3% to 5% and an increase in the spring pig crop seems almost certain. With the favorable hog-corn feeding ratios there will be a tendency to feed hogs to heavier weights also.

It seems to me that this adds up to an oil price range in the 11¢ to 13¢ area. Due to the Suez situation oil last fall and winter got up into the 14¢ area. More recently it has been between 11¢ and 12¢.

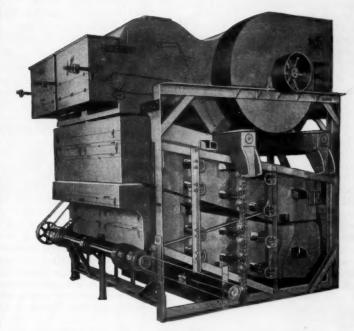
#### Soybean Meal Picture

Now, what about the soybean meal side of the picture? During the past year soybean meal got down in the low \$40 area, bulk, Decatur. Recently it has advanced to the \$50 area. This recent meal price advance is due partly to the realization by the soybean and feed trade that there is a discrepancy in the figures on the amount of soybeans available for processing this late summer. It is also partly due to the drouth in the Northeastern part of the United States which has stepped up the demand for soybean meal.

Looking ahead to the coming feeding year poultry is about the only category where we will have fewer livestock than in the preceding year. Farmers cut down about 20% on the number of chicks they bought for flock replacement this spring. There will be more yearling hens carried over than a year ago. Nevertheless our laying flock is certain to be smaller this winter and spring than it was a year ago. And poultry is one of the big users of soybean meal. The number of pigs raised this fall will be slightly larger than a year ago. There will be more pigs raised next spring. We can look for continued heavy feeding of dairy cattle; the same to possibly somewhat fewer beef cattle may be fed, however.

This should add up to a continued strong demand for our soybean meal. On the other hand the 1.5-million-bale smaller cotton crop in prospect will reduce the supply of cottonseed meal. You get around 380 pounds of cottonseed meal from a bale of cotton. So this means that there will be

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less cottonseed meal to compete with sovbean meal.

I would expect that soybean meal will average slightly higher in price during the coming year than in the year just past. If the soybean crop turns out about the size of the Aug. 1 estimate the prospects would be for soybean meal prices to range from \$45 to \$55. I think there is good prospect that we will find a market for the meal that will be processed in 1957-58 at somewhat higher prices than during the past year.

The third question we must take into account is government support prices. Support prices on soybeans are 6¢ lower than a year ago.

What will farmers do about storing soybeans this year? In recent years farmers have stored soybeans one year, then the next year sold early at harvest. Enough have done this to affect the seasonal pattern of the soybean prices. The year before last it paid to hold soybeans due in part to the winter freeze of the olive oil crop in the Mediterranean. Last year the best sales on soybeans were made early in December. This was the result of the Suez disturbance. It shot up prices. Soybean prices then dropped back and didn't recover

again until the "shortage" of soybeans was smelled out by the trade along early in July.

#### Late Season Runup?

This late 1957 summer runup could change the storage pattern. But farmers didn't make money storing soybeans this past year (barring a further runup in soybean prices at the levels of early August at the time this was written).

In the year ending we have had a large crush of soybeans all through the season. We had a strong foreign demand for oil. The beans were crushed to fill this demand—with the result that we disposed of soybean meal at a low price. This gave us cheap meal relative to other feeds.

On the basis of past experience you would expect 1957-58 to be a year when farmers sold their beans early because of this experience. The late season runup as a result of the overestimate of last year's supply may give us a good enough price at the tailend of the season to push soybeans up, however. This might make farmers become holders of beans for a repeat of last year's performance—in the expectation that if they hold their beans until the end they will

get a good price. If this should happen we could expect a relatively good soybean price for the first half of the season.

In other words if a large number of farmers hold soybeans it could pretty well eliminate the possibilities of a sufficient seasonal price rise to make the storage a profitable venture. In early August processors were bidding actively for new crop beans. In early August Illinois country elevators were bidding about \$2.20 for new beans to the farmers for harvest delivery. This is about 5¢ more than the bids were a year earlier. These bids are anywhere from 5¢ to 10¢ over the support price for soybeans at Illinois country points. These bids for new beans were high in relation to oil and meal.

So we come out with prospects for soybean prices to average about the same for the coming year, as in the year ended. The meal will be worth a little more; the oil, perhaps a little less. The seasonal pattern of bean prices may be different this year, however.

This is based on early August prospects. The whole outlook for beans, of course, will have to be reappraised between now and harvest as the crop develops.

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# The Soybean Industry— A Peek at the Future

Total output of the U. S. economy should double by 1975 and we should need an annual soybean crop of 600 million bushels or more.

#### By MARTIN SORKIN

Office of the Secretary, U.S.

IN THIS DISCUSSION I will attempt to present my own concepts of the future of the soybean industry. Naturally, all soothsayers have different ingredients and different incantations for mixing up their special potion. However, it is a point of view, and I am presenting it for whatever it may be worth as a view of the future.

Let us first sketch in at least two of the factors affecting the demand



for soybeans; namely, population growth and national income. Within 10 years the U.S. population is expected to pass the 200-million mark and is expected to be one-third higher

by 1975 than in 1955. If current fertility rates continue, the present high birth rates are expected to result in a very heavy period of new births in the 1965-1975 decade. The reason for this is that by 1975 the number of women in age groups 20-34 years may total 45% above 1955. Thus it is probable that for the next two decades population growth will be fairly rapid.

There has been and we will probably see a continued off-farm movement of the rural population to urban areas during the next two decades. Within the last few days the Census Bureau released some projections of 1970 population by states. The published figures by states are rather interesting especially for those concerned with potential market areas. The figures are shown in Table I. In general, the most rapid growth is shown for the Pacific, Mountain and Southwestern states.

By 1975, the total output of the economy is expected to be about twice as large as the current level. This estimate is based on recent trends in productivity and prospective growth of the labor force in a peacetime economy. This in turn is expected to lead to an increase in per

capita real income of about 50% above current levels. Such an increase in income will in turn balloon demand for food and other commodities made from farm products.

#### Soybeans Will Share

The soybean industry will share in this expected growth of the U. S. economy. If we assume a population of 220 million in the United States in 1975, we will need a constantly increasing production of soybeans. The annual increase in U. S. population will require on the average an additional 120 million pounds of edible fats and oils each year. This means that in 18 years the domestic requirements will have increased by about 2.2 billion pounds of edible fats and oils.

The per capita consumption of edible fats and oils is inelastic in the United States. This is generally recognized by research workers and the fats and oils trade. Thus, generally within a reasonable price range, consumption is little affected by price.

We are now the world's largest net exporter of edible fats and oils, over 30% of the world total. This comprises over 35% of U.S. production. While our population will rise, the population in the rest of the world will also increase. Current estimates state that the population in 1975 outside the United States will be about 30% higher or 750 millions more than in 1956. Larger than average gains are expected in countries of the Far East, Latin America and the Middle East. Smaller than average increases are expected in Western Europe, Oceania, Japan and Africa. In addition to population increases abroad, the standard of living outside the United States is expected to improve so that demand for fats and oils should go up faster than population, possibly 10% faster.

The export market for U.S. fats and oils depends on many complex factors, both economic and noneconomic. Certainly, world demand for fats and oils will increase in the years ahead. Although with existing technology and potential new land sources production abroad is expected to increase and meet a large part of the projected needs, it appears to me that over the years foreign demand for our fats and oils will increase substantially, even above our current high levels. The effects of sales of fats and oils under Public Law 480 in generating new demands for soybean oil and other fats and oils will be lasting in creating permanent markets. In addition,

Table 1: State Population

State	1955 census	1970 census	Percent
	Estimated	Estimated	Increase
Maine	906,000	1,030,000	14
N. H		652,000	22
Vermont		403,000	7
Mass		5,514,000	16
R. I		931,000	14
Conn		2,859,000	30
N. Y		20,023,000	25
N. J		6,942,000	30
Penna		12,508,000	15
Ohio		12,258,000	37
Indiana		5,715,000	32
Illinois		11,353,000	22
Michigan		10,483,000	43
Wisc		4,606,000	24
Minn		3,856,000	20
lowa	2,671,000	2,959,000	11
Missouri		4,957,000	18
No. Dak		710,000	10
So. Dak		776,000	14
Nebraska		1,590,000	14
Kansas	2,060,000	2,498,000	21
Delaware	390,000	593,000	52
Maryland		3,970,000	45
Virginia		4,462,000	34
W. Virginia	1,984,000	2,199,000	11
N. C	4,344,000	5,226,000	20
S. C	2,308,000	2,809,000	22
Georgia	3,662,000	4,301,000	17
Florida	3,580,000	5,912,000	65
Kentucky	3,011,000	3,322,000	10
Tenn	3,414,000	4,035,000	18
Alabama	3,110,000	3,484,000	12
Miss	2,133,000	2,323,000	9
Arkansas	1,802,000	1,747,000	- 3
Louisiana	2,934,000	3,695,000	26
Okla	2,210,000	2,135,000	- 3
Texas	8,748,000	11,752,000	34
Montana	629,000	755,000	20
Idaho	612,000	771,000	26
Wyoming	312,000	392,000	26
Colorado	1,547,000	2,197,000	42
New Mex	793,000	1,126,000	42
Arizona	1,007,000	1,802,000	79
Utah	797,000	1,151,000	44
Nevada		453,000	93
Wash	2,607,000	3,954,000	52
Oregon		2,433,000	44
Calif	12,961,000	20,296,000	57
Total		208,000,000	

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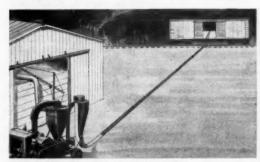
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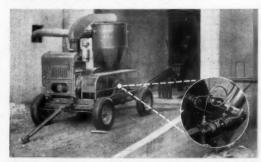
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#### "... keep in mind the unhappy experience of cotton."

the effects of the work being done by the American Soybean Association and the Soybean Council in expanding markets abroad through the use of foreign currency is only in its infancy.

In considering the foreign demand for U.S. fats and oils, it appears to me that consumers abroad will need an additional 8 to 10 million tons of fats and oils each year by 1975.

With proper promotion, market development and competitive pricing this can mean a net take from the United States of growing quantities of edible fats and oils. The soybean is expected to provide the largest part of this export requirement. It is grown primarily for oil. Most other U.S. sources are byproducts and production is dependent on factors other than the demand for edible fats or oil. If through our market development work abroad, we can increase world consumption outside the United States of fats and oils by even 1 pound per capita, we have created vast markets. The potential is there.

#### **Vast Meal Markets**

Similarly, vast untapped markets exist and will exist for our increasing supplies of protein meal. Demand for soybean meal is elastic. At reasonable competitive prices, it is possible to even further increase the use of this most important high protein meal. It may be startling to report that soybean meal is now the third most important feed in terms of tonnage consumed in the United States.



The mixed-feed industry has made great strides in improving the feeding efficiency of American farmers. However, it is important to recognize the base upon which this rests.

The following table should be studied in relationship to the growth of the mixed-feed industry. If we take the prewar period as an average and compare it with the 1956 utilization, we will find that the almost threefold increase in the consumption of protein meal amounted to 6.4 million tons. The almost sevenfold increase in consumption of sovbean meal in the same period amounted to 6 million tons. In other words, about 94% of the growth in the protein meal consumption rested on a soybean meal base. Soybean meal now represents 70% of total consumption of protein meals. The rapid growth of the mixed-feed industry has meant a great expanding market for the soybean producer.

		(1,000 tons)	meal
Average	Total protein meal 1	Total soybean meal	Percent of total
1931-35	2,253	245	11
1936-40	3,600	1,008	28
1941-45	5,801	3,093	53
1946-50	7,184	4,304	60
1951-55	8,884	5,517	62
1956-57 2	10,000	7,000	70

<sup>1</sup> Total consumption for feed of five major oilseed meals. <sup>2</sup> Preliminary, partly estimated.

Conversely, we can well ask ourselves this question: What would the mixed feed industry be today without the tremendous development of the soybean? What would the problems of the mixed-feed industry be today if it had to depend primarily on meal produced as a byproduct of a crop tied down by production control and imports?

As we look ahead at the expanding population, it is obvious that tremendous quantities of protein meal will be required. All USDA studies have shown the need for additional proteins in our livestock feeding. Studies of protein content of the major feed, corn, show a decline. To what other sources will the feeder go for the expanded protein consumption? Certainly the soybean is the major potential source of this supply. Thus soybean meal will probably acquire a larger share of the feed market.

In considering the growth of this industry, it is important to keep in mind the unhappy experience of cotton which by maintenance of artificially high prices lost markets rapidly to synthetic fibers both here and abroad. If a similar situation is

to be avoided in the case of soybean meal versus urea, market levels for meal must be such as will not foster the growth of a giant synthetic competitor. If this synthetic competitor receives nourishment from artificially high prices for soybean meal, it will grow into a permanent tough competitor able to produce increasing quantities at lower per unit costs.

#### Feed Industry Abroad

The mixed feed industry is in its infancy abroad. With good market development work, soybean meal can and is finding a ready market at reasonable price levels. Much work will have to be done in assisting foreign users to develop the know-how laboriously acquired here.

With this picture of the expanding potential demand ahead, what part will competing sources of fats and oils play? Let us consider cotton-seed first. Since cottonseed oil is a byproduct of cotton production, the availabilities of this competitive edible oil are tied in with the fortunes of the cotton program. One of the net effects of the production control programs for cotton has been a very substantial loss of markets for cottonseed oil and a resultant gain for soybean oil.

It is now apparent that the cotton program, as we have known it with its sharply reduced acreage in the United States and the expanded production abroad, will be changed in the direction of expanded production in the United States in the near future. It is apparent that the leaders in the cotton industry recognize that the continuation of the current program can lead only to further loss of markets to synthetics and further increases in the cotton acreage abroad. Therefore, it is probable that in the future the soybean in the United States will face a much stronger competitive situation from cottonseed. Also in the cotton belt to some extent the increased acreage of cotton will result in lower soybean production than would prevail if the present program were continued.

Now let us turn to another competitor of soybean oil, namely lard, and glean what we can of trends in the future production. As a byproduct of the hog economy the level of production of lard rests with two factors, (1) the number of hogs produced and (2) the lard production per hog.

During the past 50 years the American consumer has shown an increas-

ing preference for lean cuts of pork over fat cuts and lard. This is evident from a widening price advantage for lean over fat cuts. Since the relative supply of the various cuts has changed only little, the higher prices for lean cuts demonstrate an increasing demand for them.

The price of lard has declined relative to lean cuts since about 1925. Early in the period, lard was worth more per pound than any other pork product; today it is cheaper than any major pork product except plates and jowls.

Considerable work is going on designed to foster the meat-type hog which will produce somewhat less lard per hog marketed. Those in the Department of Agriculture with whom I have discussed this question indicate that in 10 years 50% of U.S. pork production will be from meattype hogs. A general trend in this direction will increase markets for soybean oil. Incidentally, this type of hog does best with a high protein meal diet. Thus, although hog production will undoubtedly increase substantially over time, the potential reduction in lard per hog will provide greater markets than in the absence of this development.

On balance after considering the total demand and the probable competition from known sources it would appear that we will need the production by 1975 of a soybean crop in the neighborhood of 600 million bushels or more depending on our success in expanding export markets and developing new uses.

Let us now turn our attention to some of the problems involved in producing crops of soybeans of such magnitude.

It should be recognized that soybeans, in spite of the tremendous growth of this industry, are still in the introductory growth stage in the United States.

#### Three Increases

The trend in acreage since 1924 has been characterized by three sharp increases with intervening plateaus. The periods of rapid increase were in early World War II years, in 1950 (Korea), and after acreage allotments were restored on corn, wheat and cotton in 1954. The annual increases in 1942, 1950 and 1954 were 4 million, 3.7 million and 2.4 million acres respectively. In the two periods between the upsurges in 1942, 1950 and 1954, the acreage of soybeans tended to move upward slowly but somewhat unsteadily. Since 1954, however, the

acreage has moved upward both steadily and rapidly. The increase since 1954 (4.6 million acres) is about as great as the total increase between 1941 and 1945 during World War II.

Acreage allotments for corn and cotton have contributed heavily to the steady shifts into soybeans in the Cornbelt and the Southern states but they are not the only influence. In the Cornbelt, for example, the decrease in the acreage of corn from 1953 to 1957 was about 2.1 million acres whereas the increase in the acreage of soybeans was about 4.4 million acres. The difference was accounted for by decreases in the acreage of other crops, chiefly oats and hay.

The process of fitting soybeans into crop rotations is likely to continue in the Cornbelt and the South. But expansion will be slow in the Plains states.

In the Cornbelt soybeans appear likely to gradually displace some oats and hay for the additional reasons that as farmers use more fertilizer on crops they are not so conscious of the need for diversification for maintaining yields, and as they get larger equipment they can handle larger total acreages of corn and soybeans.

Even with the potential changes in the cotton program expansion appears quite certain to continue in the South. This area has room for considerable steady upward trend in acreage of soybeans which is independent of the cotton program.

In the expansion of this industry

production research will probably have to be guided along the following lines:

Diseases. Diseases of soybeans can be expected to increase in prevalence and severity in future years and an increasing amount of effort in production research will be required in the development of disease resistant varieties. However, based on observations to date, varieties resistant to important diseases can be expected before serious losses in production, such as that experienced in oats and some other crops, are encountered.

Varieties. In spite of the increased attention required to the development of disease resistant varieties, varieties higher in yield and oil content can be expected for many years in the future. The advances in oil and yield will be gradual and with increasing difficulty. Continued progress in such things as seed quality, resistance to lodging and shattering, and adaptability to combine harvesting can also be expected.

Production practices. Research along these lines can be expected to reveal ways of producing soybeans with less investment in land preparation and cultivation, and with increased efficiency in the use of moisture.

Fertilization. Although the fertilization of soybeans has been an extremely difficult problem to solve in many areas, recent research indicates that the solution is not impossible. We therefore expect future research to reveal ways of using commercial fertilizers on soybeans in a profitable manner.

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# The Soybean Cyst Nematode and Your Industry

The nematode is a dangerous new pest but it is to be hoped that it can be controlled by adequate quarantine measures and crop rotations.

By JOSEPH F. SPEARS

Plant Pest Control Division, Agricultural Research Service, U. S. Department of Agriculture, Washington, D. C.

THE SOYBEAN cyst nematode (Heterodera glycines, Ichinohe) is a dangerous new pest that is a threat to the soybean industry in the United States. This nematode seriously reduced yields and can, if unheeded, destroy entire crops of soybeans each year they are planted. This pest was discovered in 1954 in a small area in New Hanover County, N. C., after a soybean grower asked state officials why some of his plantings had progressively shown reduced yields for several years.

The exact source and time of the introduction of the soybean nematode into the United States has not been determined but it is believed to have been present for possibly 10 to 15 years. Prior to 1954 the pest had been reported only from Japan, Korea, and Manchuria, China. We have no reports of the occurrence of this nematode in other parts of the world. However, it should be emphasized that information on the distribution of nematodes is fragmentary and incomplete at best.

There is good evidence that this nematode was causing damage to soybean fields in Japan as early as 1915. Some early workers in Japan considered the sugar beet nematode, Heterodera schachtii, as being re-



sponsible for the trouble but in 1952 a Japanese scientist, Ichinohe described this pest as a separate species of nematode and gave it the name Heterodera glycines

which is now considered correct.

The soybean cyst nematode is one of the numerous kinds of tiny, almost transparent eelworms that infest the soil, plants and animals the world over. For many years it was considered impossible that these tiny worms could cause damage to plants by feeding on them, even when they appeared in myriads in the soil but such judgment reckoned without pe-

culiar adaptation of this and many other types of nematodes.

The life cycle of the soybean cyst nematode can be completed in 30 days. The eggs are microscopic in size and when completely developed contain second stage larvae coiled inside them. The eggs may remain alive for several years without hatching. The larvae are eel-like in form and so tiny that a string of 50 worms would measure scarcely 1 inch.

There are four larval stages of growth, each terminated by a shedding of the skin or moult. The adult stage is reached at the fourth moult. The male nematodes remain wormlike in form but increase nearly three times in length. They leave the roots, mate with the females and then die.

As the female feeds on the roots her body swells, gradually breaking through the surface of the root. It is at this time that mating takes place and several hundred eggs are produced. Some are laid externally but most remain inside the body. As the female matures the body becomes lemon-shaped and a protective cuticle begins to form. As the cuticle ages the body changes color from white to yellow to brown.

When the female dies, her body is transformed into a cyst. The cyst, which is smaller than the head of a pin, remains in the soil after the soybeans are harvested. The eggs and larvae inside the cysts' are protected by the durable cyst wall that acts as a protection against adverse conditions and is very resistant to decay.

#### **Populations Increase**

Scattered or light infestations of nematodes in a soybean field attain maturity, reproduce and thus increase in number. At first the build-up of population and spread of the pest may be slow and undramatic and may appear almost innocuous in the field. The populations, however, increase like compound in-

terest and eventually overflow. The very innoucuousness of the disease in the early stages is an aid to the survival of the nematode. Crop reduction, as a result of light or scattered nematode infestations, may be negligible and several years may elapse after the initial introduction of the nematode in the field before there is noticeable crop injury and reduced yields.

Soybean plants damaged by this nematode are usually dwarfed, yellow and low in yield. However, such an appearance is not reliable as evidence of nematode presence since other conditions may cause similar plant response.

Nematodes are true parasites and damage to plants attacked is primarily due to feeding that may be best described as a piercing-sucking action which is accomplished with specialized mouth and throat structures. The mouth contains a hollow needle-like tube called the stylet which can be moved forward and backward. This stylet serves as a means for puncturing the plant root cells. Plant juices are sucked into the digestive tract thus depriving the host plant of its nutrition.

Cold seems to have little or no effect on the larvae in the cysts. The Japanese scientist, Ichinohe, reports that cysts exposed to temperatures as low as 40° F. below zero for 7 months still contain viable eggs. In addition to soybeans this nematode also attacks the roots of lespedeza, common vetch, snap beans, and adzuki beans.

Following the discovery of the soybean cyst nematode in the United States all state pest control officials of the states producing soybeans were alerted to watch for this pest and investigate all cases of unexplained damage to soybean crops.

In North Carolina, where the nematode was first found, the plant pest control division of the Agricultural Research Service joined with the North Carolina State Department of Agriculture in a cooperative survey to determine the extent of the infestation. Survey and laboratory teams experienced in nematology were transferred from the golden nematode program on Long Island, N. Y., to North Carolina. Survey plans called for intensive survey in communities where infestation was known to be present, spot surveys of the surrounding areas known to be exposed to infestation as a result of traffic from infested areas.

As the survey progressed it appeared that the infestation was confined to parts of New Hanover and Pender Counties and that most of the infestations were in the Castle Hayne area of New Hanover County which is principally a vegetable and a bulb growing district. Soybeans are secondary to the economy of the community and were used principally as a cover crop.

#### Means of Spread

It seemed desirable at this time to make further studies of means of spread. The soybean cyst nematode, like other cyst forms, is easily spread from place to place. It can move through the soil by its own efforts only a few inches a year, therefore, the activities of man are the principal means by which the pest is spread long distances.

The growing of soybeans and other host plants in infested soil builds up populations and increases the chances of crop losses and spread of the pest. The ability of the soybean cyst nematode to multiply rapidly is a factor to be considered in their spread since the greater number of cysts in an area the better are the chances that some of them will move to new areas. A plow sole pulled through a spot where cysts are concentrated will drag more cysts to new locations than if the same spot were only lightly infested. For that reason the heavily infested field

is more of a hazard to surrounding lands than is a lightly infested field.

The movement of infested soil, even in small amounts, can start new areas of attack. The cyst is the form which is most likely to be carried from one place to another with tiny bits of soil. Soil sticking to machinery, root crops, or soil caught in burlap bags, crates, baskets and other produce containers may contain many cysts packed with hundreds of eggs.

Soil collected from two combines used on an infested field was examined and found to contain an average of over 4,000 cysts per pound of soil. Cysts can also be spread by wind, water and farm workers.

Surveys in North Carolina were extended to the commercial growing sections of the state as well as to adjacent areas in South Carolina and Virginia. In the meantime other states were on the alert for the presence of unexplained damage to soybean crops and on Nov. 30, 1956, the state entomologists and plant pathologists of the Tennessee Department of Agriculture announced the finding of the soybean cyst nematode in Lake County, Tenn. This infestation was in the principal commercial soybean producing area of the state.

There is considerable traffic between the soybean areas in Tennessee and the adjacent "boot heel" section of nearby Missouri. Surveys were immediately started in that section of Missouri and on Dec. 12, 1956, the finding of the soybean cyst nematode in Pemiscot County, Mo., was announced, and in February 1957 the pest was found in Arkansas. Federal survey teams working in conjunction with state personnel intensified survey activities in all soybean producing states and in May of this year cysts were recovered from soybean fields in Kentucky. In July 1957 the presence of this nematode was confirmed in Mississippi. The status of infestation in these states is as follows:

State est	No. of properties	Total	Date	identified
North Carolina2	89	1,850	Aug.	1954
Tennessee4	38	3,000	Nov.	1956
Missouri3	50	2,375	Dec.	1956
Arkansas2	23	775	Feb.	1957
Kentucky1	3	200	May	1957
Mississippi1	1	100	July	1957

Federal and state personnel in all of the major soybean producing areas are continuing their efforts to determine the distribution of this nematode. It is interesting to note, however, except for North Carolina, all infestations found to date have been along the Mississippi River and many of the fields are between the levee and the river. Conducting a survey for an almost microscopic pest in the more than 22 million acres of soybeans grown in this country is a tremendous undertaking and it may be some time before the extent of the distribution of this nematode is fully known. It is important to the success of this program that all persons concerned with the soybean industry be alert for the presence of this pest.

Following a public hearing of interested persons in North Carolina on Mar. 25, 1956, the North Carolina State Department of Agriculture issued a state quarantine to regulate the movement of potential carriers of the pest from infested areas and premises. Federal quarantine action at this time was not considered necessary since the infestation was thought to be confined to a single state and the action being taken was considered adequate to prevent spread outside the state.

However, finding of the soybean cyst nematode in other states posed a threat to the nation's billion-dollar industry and made it necessary to consider federal regulatory action. On Jan. 14, 1957, the Department an-

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#### "Under certain conditions regulated articles can be moved."

nounced plans for a public hearing to be held in Washington, D. C., on Jan. 31 to permit interested individuals and groups to express their views as to the need for federal quarantine action to prevent spread of the pest from the states of Missouri, North Carolina and Tennessee. This hearing was well attended by farmers, seedmen and others interested in the soybean industry from nine states. Communications were received by the Department from five additional states.

General agreement on the need for federal quarantine action to help prevent spread of the soybean cyst nematode was expressed in the testinemony given, and on July 26, 1957, a federal quarantine became effective with respect to North Carolina, Missouri and Tennessee. Although an entire state is placed under quarantine the regulations governing the movement of articles and commodities are applied only to the infested areas or premises within the state concerned.

Since the January public hearing soybean cyst nematodes were also found in Arkansas, Kentucky, and Mississippi which made it necessary to hold another public hearing July 24, 1957, at Memphis, Tenn., to consider regulatory action on these three states. It is expected that these states will be brought within the provisions of the soybean cyst nematode quarantine sometime in the near future.

It is the purpose of federal regulatory action to prevent spread of this pest to other soybean producing states not known to be infested. Since the federal government has authority to regulate only interstate movement of commodities each state affected is expected to issue a parallel quarantine to protect uninfested areas within its own boundaries.

Under the provisions of the quarantine the movement of a number of articles may be restricted if it is determined that they present a hazard of spread of the pest. However, in most cases, such articles may be moved following handling, sanitation, or treatment practices to make them safe for movement.

The articles include live soybean cyst nematodes; soil, nursery stock and other plants with roots attached; root crops, including bulbs; soybeans; small grains; hay, straw, fodder and plant litter of any kind; seed cotton; farm tools and harvesting machinery; used construction and maintenance equipment; used sacks and other containers for farm products; and machinery and vehicles that might spread the pest.

However, under certain conditions, most of the regulated articles can move from the infested areas. For instance, soybeans can move for food or oil production when harvested by combine equipped with a hopper from which threshed beans are transferred directly to a truck in which they are moved to a designated plant for crushing, or storage.

Small grain can also be moved when harvested by combine and transferred to a truck and is then moved directly to designated storage plants for use other than planting. Root crops may be moved when washed free of soil to the satisfaction of an inspector. Seed cotton may be moved to approved gins. Used farm tools, trucks and machinery may be moved when satisfactorily cleaned or treated.

An analysis of the production, harvesting, handling, and processing of soybeans and other commodities affected by the nematode has been made in order to draw up regulations which impose the least possible burden on persons who deal with those commodities and at the same time safeguard all concerned.

#### **Control Complicated**

Control of nematodes is difficult and their eradication will present many almost insurmountable problems so prevention seems to be the most valuable means of combat. Control of soybean cyst nematodes in the field is complicated because: (1) the cyst protects eggs from drying out and resists the action of chemicals; (2) not all of the eggs hatch in a given season, therefore, cyst contents may remain alive in the soil for many years; (3) the mechanics of contacting all cysts in a field with killing concentrations of fumigants is difficult. At the present time control operations are based primarily on methods to prevent the nematode from multiplying and precautions to stop their spread.

Nematodes are found to be most troublesome in those areas where

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host plants are grown on the same fields for long periods of time without rotation. Thus, crop rotatior can be used as an effective means of preventing the pest from gaining a damaging foothold in the field. Control through rotation is based on the fact that this nematode must have a suitable host plant on which to feed and reproduce. In the absence of these plants the larvae remain in the soil after an affected crop has been harvested and eventually die. Rotation in this instance is simply the planting of non-susceptible host crops.

However, we have no information available at this time on the rate that nematodes will die off in the absence of soybeans or other host plants. Rotation of soybeans and other host plants on fields not known to be infested will materially aid, if not actually prevent, this nematode from building up to a level where crop damage is apparent. The longer the period between planting of a host crop the better the chances are that light infestations will not survive.

In the case of the golden nematode of potatoes research indicates that a 3-year rotation will prevent buildup of this cyst nematode and a 3-to-5-year rotation is used to prevent the buildup of the sugar beet nematode. While we have no specific information on the soybean cyst nematode we believe that a 3-to-5-year rotation will stop the buildup of this pest in soybean fields. Research on this point is now in progress.

#### **Chemicals Costly**

Research on chemical control indicates that the soybean cyst nematode is no more difficult to control than other cyst forming nematodes. In North Carolina where these experiments were conducted complete control was not obtained in any case nor has complete control on a field scale been obtained with this or any other nematode by chemical means.

However, reduction of nematode populations by as much as 95% to 99% is within the reach of the average grower who does not plant all his land to soybeans or other hosts. When you consider that billions of nematodes are present when crop damage is apparent the 1% to 5% remaining after application of chemicals are enough to start the cycle all over again if host plants are planted on the field.

In North Carolina experiments methyl bromide, dichloropropene, and dibromochloropropane were tested with good results. For field scale use, dichloropropene fumigant used at the rate of 60 gallons per acre would cost about \$90 per acre including application, and the cost for dibromochloropropane would be about the same. Methyl bromide would cost about \$300 per acre plus about \$200 for application

Research on the soybean cyst nematode by the U. S. Department of Agriculture is largely in cooperation with the states of North Carolina and Tennessee. During the calendar year 1957, it will include field work in Lake County, Tenn., and laboratory and greenhouse work at the West Tennessee Experiment Station at Jackson.

In closing we want to emphasize that this pest is a very serious threat to the soybean industry. It is definitely a problem requiring the combined efforts of federal and state agencies both in the regulatory and research fields, the producers, and the shippers and handlers of soybeans. There is certainly full reason for concern about this problem but nothing is to be gained by simply assuming an alarmist attitude.

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	ADDITIONAL INFOR



### Soybean Breeding Research

### Recent Developments, Future Objectives

Soybean diseases are increasing in importance and more attention is being paid to disease resistance by soybean breeding programs.

By HERBERT W. JOHNSON Research Agronomist, Crops Research Division, ARS, USDA

THE RESEARCH on the development of new soybean varieties in the United States is cooperative between state agricultural experiment stations and the U. S. Department of Agriculture. The specific items to be mentioned are a result of this cooperative undertaking and no attempt will be made to identify a specific research organization with each item mentioned.

Variety developmental research is a continuing process and sometimes a slow, if not discouraging, process. It can be likened in many respects to

ASA's 37th annual meeting a field of soybeans. The growth of the plants and the yield produced in the field is a continuous process from planting to harvest, and although you can identify certain

periods during the life of the plants when growth was unusually rapid or unusually slow, the harvested yield from the field was neverthless a process that took place throughout the growing season. So it is in the development of a new soybean variety. The process is continuing over several years but sometimes there are some unusually good or bad periods which one can single out for discussion. This is becoming increasingly true as the emphasis on the development of disease resistant varieties increases.

Soybeans are no longer considered a crop free of diseases as they once were. The importance of diseases in decreasing yields is becoming increasingly apparent, and our emphasis on the development of disease resistant varieties is likewise increasing. I should like to mention four situations that have been either new in occurrence or unusual in occurrence in the last few years and indicate what we have done and are doing about them.

Phytophthora root rot was first reported in the United States in 1951,

and it has only been within the last 3 or 4 years that the disease has been of major concern to growers. The disease has been most serious in northwestern Ohio and those of you who have seen the disease in that area know well the destructiveness of it. As soon as the seriousness of this disease was recognized, numerous selections were evaluated for reresistance to it. Several resistant selections were found, including some released varieties such as Monroe, Blackhawk, Illini, and Mukden. The inheritance of the resistance has been determined and we are well along in a crossing program designed to transfer this resistance to varieties best adapted to the area, and to develop new varieties. The discovery that some of the improved varieties were resistant was a fortunate development. Although the varieties are not the best ones for the area in the absence of the disease, they can be used satisfactorily during the time required to develop resistant varieties better adapted to the area.

Frequently disease resistance when found is in one of the several thousand selections maintained in our germplasm collection which is of little use from a production standpoint. Such resistance must be transferred to adapted varieties before it is of practical use to growers.

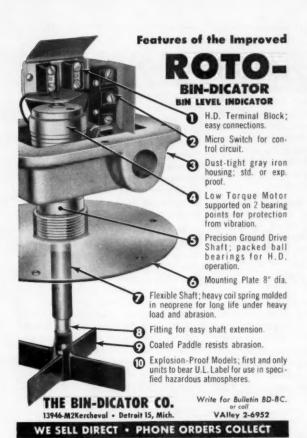
The soybean cyst nematode was discovered for the first time in this country in North Carolina in 1954. Most of you have heard about the nematode and what it could mean to the soybean industry in this country. You probably also know that it has been found in several states in addition to North Carolina. This spring we completed the evaluation of our entire germplasm collection for resistance to this nematode. The discovery of four resistant selections aptly demonstrates the value of this collection of soybean selections from many parts of the world. Although we do not know the exact nature of

the resistance, we do know that it is of practical significance in our breeding program.

The four selections are virtually useless for production in the area where the soybean cyst nematode has been found, but crosses to transfer the resistance to adapted varieties have already been made. The time required to develop resistant varieties will depend to a large extent on how the resistance is inherited. We believe, however, that we can accomplish the transfer of resistance to adapted varieties in record time and that varieties resistant to the soybean cyst nematode will be be available within the next few years.

A virus disease of soybeans was observed in several states last year, and I should like to mention this disease with respect to what we are doing about it rather than from the standpoint of what we have accomplished. There is good evidence that the same virus is not involved in all the areas, but it seems that one virus is prevalent in the major area affected. This virus was considered a major problem several years ago, then virtually disappeared in the area where it had been the most prevalent. It may be that weather conditions last year were particularly conducive to the development of this disease and that it will not be nearly so prevalent this year; nevertheless, we do not operate our research program on such assumptions. We have planted the germplasm collection in an area where the disease was prevalent last year to evaluate the selections for resistance to the disease. We believe that the chances are good that if the virus is prevalent this year, one or more resistant selections will be found.

Bacterial induced chlorosis has been observed to a considerable extent in some of the Southern states during the past 2 years. This chlorosis is caused by certain strains of nodulating bacteria and is char-



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#### "We must try to anticipate the future."

acterized by chlorosis of all new growth at the upper part of the plants when they reach an age of 6 to 8 weeks. The chlorosis persists for a period of 1 or 2 weeks then suddenly disappears. Although we believe that very little, if any, damage is done by the chlorosis, it does cause considerable concern to a grower who is observing it for the first time. We are studying many aspects of this chlorosis and if it is shown to be detrimental to plants in the field, we have resistance to the condition which can readily be transferred to adapted varieties and some of our best northern varieties are resistant to the condition.

#### **Bacteria Can Prevent**

Also, we have good evidence that a bacterial culture can be developed that will prevent the chlorosis. Thus, I mention the condition for your information and not because we consider it a serious problem in soybean production.

New varieties are always a subject of interest to growers, as well as to soybean breeders. There have been no new varieties released since J. L. Cartter discussed the variety picture on the Association program at its last meeting, and I cannot tell you exactly when another new variety will be released. However, we do have some very promising selections in the breeding programs of both the North Central and Southern states and some of you will probably be growing one or more of these selections within the next few years.

I should like to mention just briefly how a new soybean variety comes into being. A soybean breeder in any given state makes a cross between two promising selections and evaluates segregates from this cross in his own state until he has identified a few that seem to be the best from the cross. Such a process takes 5 or 6 years.

The best ones are entered into what we call our Preliminary Regional Tests and are then tested by breeders at a few locations in other states where the maturity of the selections indicate they might be adapted.

On the basis of this preliminary testing at one or two locations within each state, the best of the group are selected for the regional tests. Then these selections are tested at several locations in all states where their maturity group is adapted.

After they have been evaluated in this manner for about 3 years, the breeders from the various states get together and decide whether any of the selections are qualified to become new varieties. If they are not, they are eliminated from further testing. If one is good enough for a new variety, plans are made for the simultaneous increase of seed and release of publicity for the variety in each of the states where it has proved to be superior to presently available varieties.

The states participating in the release of the variety also participate in the naming of it. Once an agreement on when, where, and how a given selection is to be released as a variety is reached, everyone involved keeps this agreement in a very commendable manner.

Future objectives of the breeding program differ little from those of the past, with one important exception. This pertains to disease resistance. Resistance to important and prevalent diseases is a major objective of every soybean breeding program in the United States but this has not been so until recent years. Diseases are definitely recognized as being more serious in soybeans than they have been in the past. Therefore, an increasing amount of research effort must be devoted to counteracting the effects of these diseases. However, we are confident that we will be able to continue to develop disease resistant varieties as needed. Our germplasm collection provides an invaluable tool in such undertakings and we intend to preserve and add to this collection in the future

Concurrently with the increased emphasis on disease resistance will be a continued emphasis on other characters that we have considered in the past, such as oil, yield, resistance to lodging and shattering, and adaptability to combine harvesting. In addition, we are doing a small amount of work on the development of high-protein selections.

We have often been asked why we do not breed for high protein rather than high oil, and there has been at least one editorial in recent years in the Soybean Digest on this subject. The answer to this question is quite simple and can be obtained from any of your processor friends. Processors have made the decision that oil should receive more emphasis in breeding than protein. They have good and sufficient reasons for this decision and as long as this continues to be true, it behooves breeders, as

well as growers, to provide them with what they wish.

However, no one can predict what the situation will be a few years in the future. It may be that some economic development will change the relative emphasis on oil and protein and that everyone will be concerned with high-protein varieties at some date in the future. Such a development could take place in a relatively short period of time in comparison to the time required to develop a new soybean variety.

Therefore, we believe that we must have some of the preliminary work done, if and when such a situation should arise. Furthermore, such work increases our basic understanding of the soybean plant and is by no means wasted, regardless of whether or not high-protein varieties are desired sometime in the future. For example, past research and experience have revealed a negative association between amount of oil and amount of protein in the beans. That is, as oil or protein is increased, the other can be expected to decrease.

However, there are a lot of things about this negative relationship that we do not understand and about which we are attempting to obtain additional information. We have some definite information based on averages, but in the breeding program it is the unusual or exceptional case that is of primary interest.

Thus, our breeding research program is planned to produce improved varieties in terms of current disease and other production problems as well as the preferences or demands of the markets. In view of the time required to develop a new variety, however, we must consider such things as a new disease a problem before it becomes a problem to growers. We cannot wait until the disease is proven to be of major importance by waiting until it has destroyed large acreages for several years. We must on many occasions try to anticipate the future and in the case of a new disease, we must assume that it can be as serious on large acreages as it is in our experimental plots.

Sometimes we are right in our anticipation of future developments and sometimes we are wrong. Suggestions from growers and processors would help us to be right a higher percentage of the time, and we invite your suggestions on all phases of our research program.

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# Progress in Soybean Research

Reports on research to find new oil derivatives, more stable edible oil, and the toxic factor in trichloroethylene-extracted soybean oil meal.

By J. C. COWAN

Northern Utilization Research and Development Division, Agricultural Research Service, U. S. Department of Agriculture, Peoria, III.

FINDING new oil derivatives for industrial nonfood uses, stabilizing edible soybean oil, and determining the toxic factor in trichloroethylene-extracted soybean meal are three major items around which the 1957 annual report from the Northern Division is concentrated.

When L. L. McKinney, a chemist in the oilseeds section at the Northern

ASA's 37th annual meeting Division, gave our progress review at the 1956 ASA annual meeting in Urbana (1), he pointed out as a major item the increasing use of polyamide resins from vegetable oils for

gelled paints. Last year, soybean oil use in paints increased 30 million pounds. This gain is in good part believed due to the greater use of polyamide resins for gel manufacture and the greater domestic distribution of gelled paints. The development of polyamide resins from soybean oil was one of the earlier accomplish-

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#### Tesom

First of all this year, I should like to review our work on the toxicity of trichloroethylene-extracted soybean oil meal (TESOM). In the past 50 years three major outbreaks of toxicity in cattle caused by trichloroethylene extraction of soybeans have occurred. Investigations initiated by Sir Stewart Stockman in 1912 on aplastic anemia were reported in 1916 (2), indicating that TESOM was toxic to cattle. In 1923, an epidemic broke out among herds in Germany and the Low Countries, particularly in the Duren district, and the toxic symptoms became known as the "Duren" disease. Again, research workers traced the cause of the hemorraghic aplastic anemia disease to TESOM (3). In 1948 through 1952, additional investigations in this country showed that a hemorrhagic disease in cattle (4, 5, 6, 7) and sheep (8) was caused by meal known or presumed to be extracted with trichloroethylene.

Earlier work had not shown why such meal was toxic and caused the hemorrhagic disease and aplastic anemia. Accordingly, with a need voiced by the industry, we undertook to determine what the causative agent was in TESOM.

Through extensive cooperation and contract work at Iowa State College and at the University of Minnesota, we were able to get a clearer picture of what occurs when the meal is fed (9) and to develop a rapid calf assay for actual toxicity tests (10). We are particularly indebted to Dr. M. O. Schultze of Minnesota for coordinating this work on

the St. Paul farm campus.

In cooperation with Drs. J. C. Picken and H. E. Biester of the Veterinary Medical Research Institute, Iowa State at Ames, we found that a reaction product of trichloroethylene with a sulfur amino acid gave the typical symptoms of TESOM toxicity when fed to a calf at the rate of 10 mg. per day per 100 pounds. This amount is 1/45,000 of a pound per 100 pounds calf weight per day. Thus,

using synthetic materials we were able to produce the typical hemorrhagic condition and aplastic anemia in cattle. This derivative is chemically known as S-(dichlorovinyl)-cysteine.

Table I gives data on the biological

Table I
Biological response of calves fed synthetic
trichlor-derivative

Amount fed.		Days to	
mg./ 100 lbs. /day	Blood symp- toms	Visible hemor- rhage	Death
200*	10	13	14
20	18	22	27
10	20	26	60
132,000-TESOM	20	30	44

\*This high level was not tolerated by the calf and was discontinued after the seventh day; symptoms followed by death subsequently developed as shown.

response of calves fed the trichloroethylene derivative of cysteine and of soybean oil meal (11). Chemical tests on isolates from toxic protein (12) separated from toxic TESOM indicate that a similar derivative is present in the original TESOM (11). Although trichloroethylene is no longer used to extract soybeans in this country, this work emphasizes the extreme toxicity of the material and the need to know the fate of other chlorine-containing solvents used in the manufacture of feeds or foods.

Without the careful feeding studies carried out at Iowa, Minnesota, and other State Agricultural Experiment Stations, TESOM might still be fed in this country because it was used apparently without reported incident for 5 to 7 years. When diluted with other feed and especially when prepared from older beans containing fewer reactive sulfur groups, it has a low toxicity which is not manifest without careful testing.

#### Flavor Stability of Soybean Oil

Our Northern Laboratory pioneered research in the United States on the need for metal-inactivating agents in soybean oil. This work, along with our taste-panel evaluation, laboratory methods for preparing a bland soybean oil, and studies of the effect of trace metals in soy-

### Table II Comparison of liguid edible oils and total food fat used—1947-1936\*

1000 101 0000 17-17		
	1949	1956
Liquid edible oil (billions of pounds)	1.2	1.7
Liquid soybean oil (billions of pounds)	0.24	0.53
Per capita use liquid oil pounds		
All food fats (billions of pounds)		7.4
Per capita use food fat		44.5
Increase All soybean oil in food		
(billions of pounds)	1.2	2.1
*Source: Fats and Oils Situation May 1957, and earlier issues.	ion, No.	184,

bean processing, was instrumental in improving edible products from soybean oil. Nutritionists now say there are certain fatty acids as necessary in human diet as are the essential amino acids or protein building blocks. Recent work on the need for larger amounts of essential fatty acids in our diets emphasizes the need for more research on edible soybean oil used as a cooking oil. Tentative nutritional recommendations regarding the need for more essential fatty acids may have already made their influence felt in edible oil consumption.

Table II shows both the total and per capita increase in use of liquid edible oils, as compared with all fats. Per capita use in the last nine years has increased 2.6 pounds for liquid oils, whereas all fats increased only 1.9 pounds. Thus, other fats, which are primarily solid fats, lost almost 0.7 pound per person.

Shortenings and margarines prepared from soybean oil by hydrogenation have limited amounts of the essential fatty acids (13), whereas unhydrogenated soybean oil has large quantities of the essential fatty acid, linoleic (45-50%), and its partial replacement, linolenic (6-9%). However, liquid edible soybean oil has not proved entirely suitable for release to the consumer trade. When it is used in frying, undesirable flavors develop if iron impurities are

present. Recent work at our laboratory has removed some of the mysteries surrounding this lower stability of liquid soybean oil, as compared with other food oils for frying. Of course, the amount of polyunsaturated fatty acids present, primarily linolenic, is a very definite factor, and our work shows that linolenic acid is a main precursor of undesirable flavors.

Linolenic acid is also an important factor to be considered in stabilizing sovbean oil. In addition, antioxidants, or materials often added to foods containing fats to prolong their good flavor and prevent rancidity, appear to be only slightly effective toward stabilizing soybean oil. Tocopherol, a natural antioxidant, is present in comparatively large amounts in soybean oil, not only after the oil has lost its flavor, but even after it reaches high oxidation levels characteristic of rancidity. Table III shows how tocopherol fails to protect after a minimum amount of tocopherol is surpassed (14). Indeed in some experiments lowering the tocopherol by use of carbon black increased stability. Much more work is needed before we are able to capitalize on this behavior of soybean oil, but we are now attempting to gather the needed information.

Research has found new antioxidants which do stabilize the oil, but they are either toxic or give poor flavor responses. The search to find suitable antioxidants goes on

Table III

Effect of tocopherol in oxidation of soybean oil

Initial

Soybean Oil	Micro- gram per gram	Induction period Hours
Original	1,500	9
Carbon treated A	100	14
Carbon treated A plus tocopherol	400	17
Carbon treated A plus tocopherol	11,000	11
Carbon treated A plus tocopherol	2,000	7

The report of the oilseeds and animal fats task group of the President's

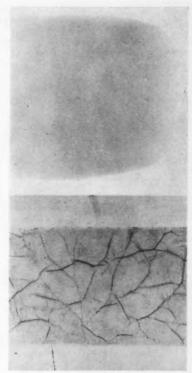


Figure 1. Films of soybean vinyl ethers. Top, unwrinkled, a copolymer; bottom, wrinkled, a polymer.

Commission on Increased Industrial Use of Agricultural Products emphasized the industry's stand that research is needed to clarify the importance of fat in the diet and the relationship of soybean and other vegetable oils to this problem (15). Industrial representatives have urged us to continue our research on the stability of liquid edible soybean oil (16).

#### **New Polymers For Coatings**

Last year another item that Mr. McKinney told you about was the preparation of vinyl ethers from commercially available soybean fatty alcohols. We know now that these vinyl ethers, after being converted by a catalytic reaction to polymeric

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Table IV
Properties of soybean vinyl ether polymers and copolymers

Vinyl compound		Property of baked film with cobalt drier		
Monomer	Comonomer	Mol. wt.	Alkali immersion	Wrinkling
Soybean	SURENDANIA	4,450	Film unaffected after 24 hours	+++ Gas checked
Soybean	************	1,850	Film dissolves in 20 minutes	++ Gas checked
Soybean	2-Chloroethyl vinyl ether	2,360	Film unaffected after 72 hours	None
Soybean	Isobutyl vinyl ether	5,140	Film dissolved in 45 hours	None

products or resins, have considerable merit as ingredients of protective coatings. Through the assistance of an industrial concern, we were able to obtain a preliminary evaluation of certain of these vinyl ethers. This evaluation showed that the initial polymers submitted were too much like tung oil to be considered good protective coatings. Figure 1 shows a wrinkled and gas-checked film prepared from a polymer of the vinyl ether of soybean alcohol. This checking is characteristic of tung oil, but such wrinkling can be controlled with tung oil films. The same method, however, did not prove effective on the films of soybean vinyl ethers. This setback actually proved helpful. It meant that we went seeking other superior polymers or resins, and we found them.

During the past year we undertook a program to prepare copolymers of soybean vinyl ethers with a variety of materials. The number of variations possible is considerable. We found materials with unusual adhesion to metals, materials which are flexible but which resist abrasion and which have exceptional solvent and alkali resistance. Among these are the soybean-ethyl, soybean-butyl. soybean-isobutyl, soybean-2-chloroethyl, soybean-2-methoxyethyl, soybean 2-ethylhexyl, and soybeannopol vinyl ether copolymers. Figure 1 shows an unwrinkled film prepared from polysoybean-isobutyl vinvl ether.

We believe that among these copolymers are superior materials for making industrial coatings where baked finishes are desired (16). Metal coatings, such as needed for black iron, tin, and steel, command a somewhat higher price than general purpose ones. In preliminary tests with "black iron cans" coatings containing soybean vinyl ethers withstood bending and crimping without breaks.

There is a good chance these films might well be valuable in developing "tinless tin cans." At least results to date are encouraging.

Polymers with both conjugated and nonconjugated soybean vinyl ethers can be made giving a still wider variety of additional products for consideration. Only after surveying these products adequately can we assay their true potentiality. For example, actual shelf-storage tests lasting 2 to 3 years are required to establish final suitability of soybean polymers as can coatings. Table IV summarizes some properties of these polymers and copolymers.

Certain of these polymers or resins emulsify readily with simple emulsifying agents which on baking lose their emulsifying power. Since the emulsified film will soften and flow slightly under heat, the possibility of preparing emulsion coatings for decorative baked finishes exists (18). This part of our work may prove the most important.

#### Other Progress

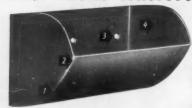
Naturally, these three items are but a few of the many that we could report to you. Among the more interesting of other fundamental work that we are undertaking is the contract research under Dr. H. E. Carter at the University of Illinois. He has found that soybean phosphatides contain 16-20% of a phytosphingosine-inositide, which he calls "phytoglycolipide." It contains phytosphingosine, inositol, glucosamine, arabinose, mannose, galactose, and a hexuronic acid. It is a newly discovered lipide of the plant kingdom also present in corn. Its importance remains to be determined.

Work on adducts of soybean oil show that they are good plasticizers for polyvinyl chloride which, when properly plasticized, has the largest volume use among resins in today's markets.

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# New Horizons for American Agriculture

Senator Humphrey, scheduled to be the annual ASA banquet speaker, did not appear. Here is the speech he planned to give.

By SENATOR
HUBERT H. HUMPHREY
Of Minnesoto

WE IN MINNESOTA are proud to be hosts to this national convention, because soybean production is now a well established \$100 million crop to farmers in our state. In ad-

ASA's 37th annual meeting dition, the annual soybean crop in Minnesota is providing hundreds of thousands of man hours of employment in the marketing, transportation, and processing fields.

Perhaps nowhere has the rapid rise in soybean production been more graphically exemplified than right here in Minnesota, where soybean acreage has grown from 2,000 acres in 1934 to 2.8 million acres planted this year. In other words, the acreage devoted to soybeans in Minnesota has increased 1,400 times in 24 years!

Minnesota has now risen to be the second most important soybean producing state in the nation, second only to Illinois. Last year, we produced 12% of the total national output. And I want to serve notice on our friends in Illinois: We do not stand still in Minnesota! Our soybean producing area is still growing. Our increase in total soybean acreage has resulted from increases in both the number of producers growing sovbeans, and the number of acres planted per farm. In 1934, only 4% of the Minnesota farmers planted soybeans. This grew to 10% in 1944, 20% by 1949, and approximately 40% by 1956. It will be higher this year and next. Already, soybeans provide \$1 out of every \$4 of cash income from the sale of crops in

It took courage and vision for you in the soybean producing and processing industry to keep your sights on the future, instead of retreating to standards of the past.

At a time when most spokesmen

for agriculture were talking about cutting back production, about adjusting backward from wartime peaks, about trimming our sails to prewar standards, you soybean producers proved you could not only hold your wartime gains—but could still move ahead. You did it by working together toward seeking out and capturing new markets. You did it by keeping your eyes on the lookout for new and broader horizons, instead of retreating to the past.

Of course, you had a unique commodity to work with—a commodity combining two of the world's greatest nutritional needs: edible oils and protein.

#### **Worldwide Markets**

In a real sense, therefore, your markets are worldwide and expanding, limited only by your own imagination and enterprise in going after them—and by the living standards of the world.

If I have devoted considerable time to discussing your own commodity, it is primarily because your soybean industry is symbolic of the major points I want to make—points that concern all agriculture and the entire nation's attitude toward agriculture.

Your own growth is the result largely of response to the nation's needs in one period of emergency, and your future is closely interwoven with another emergency—the entire free world's struggle for survival.

Your destiny cannot be determined by you alone, in a period when survival of freedom in the world must transcend even the most pressing domestic problems.

Its destiny is linked inseparably with our struggle against the cunning, imperialistic forces of Communism threatening to engulf the world—and with the degree of recognition we receive as to the vital



importance of agriculture's role in that struggle.

You have had the vision and enterprise to seek new horizons for your markets rather than be satisfied with the past, and all agriculture needs to raise its sights to the broader concept of meeting the needs of the world in which we live, under conditions that exist in the world today.

But if agriculture itself needs to broaden its horizons, even more so is that need evident in the highest levels of our government.

The greatest hope for American agriculture today rests in building markets abroad, both for the present and for the future.

The greatest hope for strengthening the bonds linking our allies of the free world in an allout stand against the onward march of Communism is solidifying our economic and cultural ties.

These two objectives are too interlocked for either to be considered alone.

As a result, agriculture's future rests to a great degree on the extent to which we recognize its vital role in international trade, and make wiser use of our abundance to supply the needs of other people who might otherwise be compelled by necessity or naivete to turn to the Soviet orbit for food and fiber to survive.

Russia is making shrewd use of its time. The cunning rulers in the Kremlin have shifted at least for a time from military warfare to economic warfare—and are making more progress with trade than they were able to achieve with guns. They have moved their tentacles into country after country, in part or in whole, under the guise of economic agreements and expanded foreign trade operations.

The greatest weakness that has confronted Russia in this calculated

Minnesota.

#### We ask that P. L. 480 be recognized as foreign trade policy.

economic penetration of neutral areas has been its own shortage of food and fiber. Yet Russia has been shrewd enough to recognize that fact, and has given top priority to expanding its food output. Not for its own people, but as an economic weapon in a world which above all else must have food.

#### **Looking Backward**

What have we been doing in this same period? We have been asking our farm people to lower their sights, to trim their sails, to cut their production to prewar standards. We have been told downward adjustment is necessary. We have been guided into looking backward, instead of looking ahead.

Remember one thing: The instinct for human survival is stronger than any conviction about ideology. People are going to eat. If we don't fill the food needs of the world, Russia will set out to fill them. She has already chartered her course in that direction.

The country on which the greater part of the world is dependent for food, fiber, and other trade will eventually wield the balance of power in the world. We are losing, today, on this economic front.

What good is it for us to build bigger H-bombs, if we let the rest of the world become slowly linked to the Iron Curtain countries by economic and trade policies?

The real material advantage we have over Russia today is our abundance of food. All of us would rather see it put to good use, rather than just be piled up in storage. And we Americans are naturally traders and merchandisers; the role of finding ways to feed the world fits us a lot more naturally than the role of warriors.

Why, then, are we hesitant about challenging Russia on the economic front? Why shouldn't we, instead of Russia, be aggressively seeking to become the world's supplier of the material wants of less-developed countries?

If our situation is serious enough to justify vast defense expenditures—and our military leaders assure us it is—we are certainly silly to be quibbling over the loss of a few American dollars through the export sale of farm products for foreign currencies.

If we expect to compete with Russia for international trade in the world of today, we must be ready to trade in whatever currencies are

available. We cannot hoard all the dollars ourselves, then be willing to sell only for dollars others do not have.

If we want to protect and strengthen our ties with other freedom loving people, we are going to have to trade with them—whether it is for lire, pesos, pounds, francs, or marks.

It is not as though we did not have good uses for foreign currencies. We are engaged in government operations all over the world. We have defense bases all over the world. We have private American business interests all over the world. We certainly can use constructively the foreign currencies we obtain through sale of our farm products abroad—and official records of our government prove it.

But there is still a second reason why we are failing to meet the Soviet challenge on the economic front.

It is the timidity of our government officials, and their lack of vision, imagination, and daring. They fail to understand what a powerful force for freedom our abundance of food and fiber could be, both in economic relationships and as humanitarian evidence of our concern for hungry people everywhere.

Far more is at stake than any political argument over farm policy. Our country's entire future is involved. Instead of criticizing farmers, the American people should be thanking God for our abundance, and insisting on its wise use as a weapon of freedom, a potent force for peace.

Instead of quibbling about his personal philosophy on farm legislation, Secretary Benson should have the courage to stand up to the President and the rest of the cabinet and defend our farmers as being one segment of our economy fully prepared to serve our country in this emergency.

I have not come to these conclusions lightly. Many of you know that I spent a month overseas this year to see for myself whether real opportunities existed for the kind of food utilization I have long envisioned. I have talked with our military commanders abroad. I have talked with our diplomatic representatives. I have talked with highest officials of other governments. I have talked with American businessmen abroad. I have talked with our church workers and representatives of CARE carrying on such a valuable people-to-people relief work abroad.

On every hand the answer was the same. It is a national disgrace that our country fails to realize the potential asset it has in an abundance of food and fiber, in the midst of a world of hunger and need.

Since my return, I have devoted long hours to conducting weeks of hearings before the Senate Committee on Agriculture into operations of P. L. 480, under which our farm export programs are conducted. From witness after witness before our committee, from every agency of our government and from producers as well as the private trade, the evidence has been conclusively the same.

#### **Emergency Legislation?**

Yet our Secretary of Agriculture, as late as last week, reiterated his belief that P. L. 480 was "just emergency surplus disposal legislation." The same view has been echoed by spokesmen in the White House.

We must fully realize that our agriculture can and should be an integral part of winning freedom in the world. In that context, we need abundant production as a vital part of our defense arsenal, and we can certainly afford, in the nation's interests, seeing that our producers are properly and fairly rewarded for fulfilling our nation's needs.

When Congress reconvenes in January, it is my intention to submit a series of recommendations for improvement and expansion of P. L. 480 along those lines. You can rest assured we are going to ask for more than just a 1-year extension of this authority. We are going to ask that it be recognized as a foreign trade policy of our government, not just as a tool for getting rid of surpluses.

In time of war, we recognized the importance of food and fiber went far beyond just farm people. We created a War Food Administration, to mobilize our food resources for victory. Perhaps today, in time of a shaky and uncertain peace in the world, it is time to think about a similar role for a special "Peace Food Administrator" to guide more effective use of our food resources for another victory.

It is just as important to mobilize and use our resources for winning on the trade and economic front today as it was to help win on the battlefront a few years ago. It is even more important to use our food abundance as a constructive force for peace on the humanitarian front, in the ideological struggle now dividing the world.

I urge your support in that effort. For only then can you and others in agriculture reach the new horizons that beckon from all over the world.

Back in April I wrote the then Assistant Secretary Butz to furnish me with an analysis of the price and income effects of exports under P. L. 480. On May 31 the Department furnished us with a splendid analysis of the effects of Title 1, P. L. 480, on farm prices, income and price support levels. This nine-page document has within it a tremendous amount of factual meat. The facts are laid bare for all to see. Probably I ought to quote from some of the sections of this report with special reference to the effects on fats, oils and oilseeds.

#### Report on P. L. 480

"Exports under Title 1 have been effective primarily in helping reduce large accumulated surpluses and in preventing further accumulations. This in turn has resulted in a substantial reduction in CCC handling and storage costs.

"The corollary objective of P. L. 480 is to build expanded foreign markets for U. S. agricultural products. This is a longer-time objective and the benefits to American farmers will accrue in the years to come. While few immediate results can be expected, evidence is growing that the improved diets abroad as the result of Title 1 sales and the market development activities connected with the program will be reflected in future exports.

"Prices of lard and edible tallow in 1955 appear to have been about 1c and those in 1956 nearly 2c per pound higher than they would have been without the P. L. 480 program. Prices of cottonseed and soybean oils were raised about 1½c to 2c per pound by the program in 1955 and about 2c in 1956.

"Without the program, 1955 and 1956-crop soybean prices to farmers would have rested completely on the support levels. As it was, prices received by farmers were about 15c for the 1955 crop and about 7c for the 1956 crop above support. Also, the increased export demand resulting from the program enabled the entire 1955 crop to move readily into commercial channels. While CCC is expected to acquire a considerable quantity of 1956-crop soybeans, the program is helping minimize the CCC takeover.

"Prices to farmers for 1955- and 1956-crop cottonseed were about \$2.60 and \$9.50 per ton, respectively, above support. Without the program, 1955-crop prices would have been at the support level, while those for the 1956 crop still would have been somewhat above support. P. L. 480 exports of cottonseed oil in 1955-56 come partly from CCC stocks. Without the program, CCC would have acquired cottonseed oil from the 1955 crop. No such situation would have developed for the 1956 crop, since prices still would have been above support.

"Farmers' cash receipts from sales of farm products may have been increased by around \$165 million in 1955-56 and by around \$275 million in 1956-57, as a result of exports

under Title 1 of P. L. 480. For 1957-58, the amount may be not greatly different than in 1956-57, although admittedly, this figure has to be based on much less information than the others.

"The estimated approximate amounts for 1955-56 and 1956-57 by commodities are as follows:

Commodity	mil. dol.	1956-57 mil. dol.
Wheat		70
Rice	10	******
Tobacco	40	30
Corn and other feed grains	** *****	10
Fats and oils	100	115
Meat	15	50
	145	075

#### Effects After 1957

"After 1957, the effects of exports



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- Sellers of 44% Hexane Solvent Soybean Oil Meal
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under Title 1 on support levels may be somewhat greater than to date, particularly on cotton and rice. This would result primarily on the operation of two factors:

"First, the strengthening of market prices as a result of reduced supplies due to exports under Title 1 would tend to increase the parity price. Under the modernized formula for computing parity prices (not now applicable to wheat, corn, and peanuts) the most recent 120-month

average prices received by farmers (in some cases, the most recent 10-year season average price) is one of the factors used to compute the parity price. The increase in the average price due to exports under Title 1 would be reflected in a small increase in the parity prices for the commodity. Through 1957 this effect has been insignificant and generally is likely to be relatively small for the next several years.

"Although the exports to date have

not had any major effects on support levels (or farm income) the exports have resulted in reductions in CCC costs of handling and storing commodities.

"Costs to the commodity credit corporation have been lower because the increased demand for exports under P. L. 480 in the market, for such commodities as wheat, soybeans, and tobacco, has reduced the quantity placed under support and the quantity acquired by CCC in operating price support programs. Further, the increased disposition out of CCC stocks due to exports under P. L. 480 have materially reduced CCC inventory of many commodities effecting a considerable saving in storage, interest, and handling costs."

# ADM Buys Federal Foundry

ARCHER-DANIELS-MIDLAND CO., Minneapolis, disclosed the expansion of its operations in the foundry industry with purchase of Federal Foundry Supply Co., Cleveland.

Warner B. Bishop, Jr., vice president and general manager of ADM's foundry products division, said the acquisition will provide ADM with a complete line of basic foundry materials and supplies. The Minneapolis concern now is the country's largest manufacturer of foundry core oils and also produces shell molding, air setting, and CO<sub>2</sub> setting core binders.

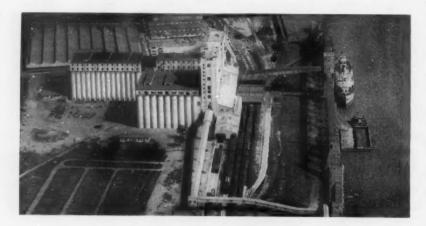
The Cleveland company produces seacoal, core washes, foundry facings, parting compounds, core and mold blowing machines, bentonite, vermiculite, and sells a full line of foundry supplies and equipment, all of which are new to ADM, Bishop said.

Bishop said the Federal Foundry operations will be integrated with ADM's foundry products division, which has its headquarters at Cleveland. For the present the Cleveland company will operate as a subsidiary of ADM.

#### **Approved Varieties**

THE FOLLOWING soybean varieties have been added to the list officially recognized by the U.S. Department of Agriculture, Agricultural Marketing Service announces:

Acme, Chippewa, Clark, CNS-4, CNS-24, Comet, Grant, Hardome, Harly, Jackson, Kanrich, Kim, Lee, Norchief, Renville, Smith Super, and Yellow Gatan.





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For full facts write: Board of Commissioners of the Port of New Orleans, 2 Canal St., New Orleans, U. S. A.



PORT OF NEW ORLEANS U.S.A.

#### Sees Surplus Problem for 2 Decades

PROSPECTS are that increases in agricultural productivity will keep pace with the population rate for a considerable period of years, O. B. Jesness, department of agricultural economics, University of Minnesota, told the annual meeting of the National Soybean Processors Association in Minneapolis Aug. 26. "The concern will be over surpluses, not shortages, for the next decade or two and probably longer," said Dr. Jesness.

"The quantity intake (of food) per capita remains remarkably stable. What is subject to considerable change, however, is the content of the diet. Per capita consumption of wheat and potatoes has been declining for years. The offset has been increases in consumption of some animal products and fruits and vegetables.

"A continued shift in this direction will expand markets for agricultural resources because it takes considerably more of these resources to produce a pound of human food as meat, milk or eggs than a pound of food grains or potatoes. Need it be added that such a shift is of interest to the important product, soybean oil meal.

"Acre allotments and market quotas apply to basic crops. But acre restrictions are not synonymous with production controls. Nor have we imposed or accepted restrictions on released acres. The ample supply of feed grains is accounted for by planting land diverted from basics to feed grains, including soybeans. Shifting acres merely spreads the surplus problem.

"The remedy needed is to reduce the intensity of use of some land, such as returning wheat land in the Southwest to grass, and to take some land out of farm use. But is not this the very purpose of the soil bank program which was inaugurated with considerable fanfare in 1956? Yes, it is, but results to date show little adjustment for the outlay of public money.

"The goal should be that of getting real production adjustment in the products and in areas where such adjustments should take place rather than distributing it among farmers generally. In many instances effective results will call for taking out whole farm units rather than small acreages which tempt farmers to assign their poorest land and to step up production on the rest.

"World output of soybeans has been establishing new records for several years past. A large share of the increase is accounted for by the United States. War, the aftermath of war and the domination of Far Eastern producing areas by the Communists have increased outlets for our soybeans.

"Acre allotments on basic crops have been a stimulus to further expansion of soybeans. The buildup of feed supplies resulting from growing feed grains on diverted acres in terests soybean producers and processors because soybean oil meal is an important feed product.

"Export disposals under P. L. 480 and other programs involve sizable amounts of soybean oil. For example from July 1956 to June 1957 the exports of soybean oil under Title I, P. L. 480, total 578 million pounds.

"As pointed out above, the gov-

ernment is playing a significant role in foreign disposal of soybean oil. Without any crystal ball to help reveal the future, good judgment suggests we not depend too heavily on the indefinite continuation of this program in its present magnitude.

"We cannot be unmindful of reactions of other nations as well as our own budgetary considerations. While consuming nations may offer less objections to deals involving soybean oil than some of the more generally produced commodities such as wheat, it is well that we not overlook the competitive situation among a considerable range of food, fats and oils. If less reliance is to be placed on disposal of oil by the government, processors and industry generally have responsibility for development and expansion of markets.

"Not to be overlooked in this connection is the vital stake which farmers and 'agribusiness' have in maintaining health in the economy generally. There is no real substitute for a market kept strong by a continued high level of productive employment and activity, and by the avoidance of excesses of inflation as well as depression."



O. B. Jesness

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#### Research Cheaper than Price Props

THOMAS L. DANIELS, president of Archer-Daniels-Midland Co., said Aug. 26 that survival of the soybean industry depends on "intensive research and aggressive selling."

He called on the industry to undertake a program of "upgrading the quality of our products, establishing new markets and finding entirely new uses for the soybean."

Government, too, should be more aggressive in broadening the market for soybeans, Daniels said in an address at the annual meeting of the National Soybean Processors Association in Minneapolis.

Citing the phenomenal growth of the industry, Daniels said that in spite of doubled soybean production in the past decade, the soybean support price program has cost the government very little.

"A few million dollars more for research could forestall many millions in price support funds," he declared.

The ADM president was sharply critical of the "double standard aspect" of the farm price support program, declaring that it is designed to assist farmers without regard for other segments of the soybean industry.

"We must buy in an artificial market where the price of the commodity is based on government supports," he said. "We must sell our end-products in a highly competitive market where supply and demand dictate the final price. Can our industry, or any other industry, continue to grow unless all segments prosper? The answer obviously is no."

With improved agricultural technology, farmers are able to increase

production in spite of acreage allotments and soil banks, Daniels continued. High support prices encourage this all-out production.

"Isn't it wrong for Congress to perpetuate a pricing program that converts the blessings of a bounteous harvest into a national calamity costing American taxpayers billions of dollars in supports for agricultural products?" he asked.

Daniels pointed out two broad fields of research—industrial and nutritional—and urged soybean processors and growers to contribute to that endeavor. He declared that utilization and product research should be performed by industry, while government laboratories should be concerned primarily with basic research.

The ADM president also called on the processors and growers for some "good old fashioned selling" to widen the market for their products.

"Why don't we sell protein?" he demanded. "The soybean is the finest source of protein, and Americans are very value-conscious people. They also are extremely diet-conscious. The protein hunger of the American people is a potential multi-billion-dollar market for farm products. The soybean is best qualified to satisfy that hunger, either directly through edible products or indirectly as live-stock and poultry feeds to produce the milk, meat and eggs required."

Praising the work of the Soybean Council of America, a joint organization of growers and processors, in furthering consumption of soybean products abroad, Daniels said the foreign market offers a promising outlet for soy specialties.

"Here is another opportunity for

our industry to do some real selling and at the same time perform a service by showing the Europeans the merits of properly processed soybean products," he said.

Daniels expressed disappointment, however, at failure of the soybean growers to support the council financially. Its objectives are a common cause, he said, adding that any program which broadens the market for soybeans and soybean products benefits the entire industry.

Exports of surplus soybean oil and soybeans under the P.L. 480 program aids the industry as a short-range solution to excess production and also promises some long-range benefits, he continued.

"This program is creating new eating habits abroad that will not be easy to change," said Daniels. "Thus it is creating new future outlets for American farm products."

#### **Exports to Germany**

THE UNITED STATES exported 348,000 metric tons of soybeans to Germany in 1955 and 443,000 metric tons—84% of the total West German imports—in 1956, according to Foreign Agricultural Service, U. S. Department of Agriculture. Value of other U. S. shipments to Germany during the past 2 years was unimportant.

Reasons for the \$10 million increase in U. S. soybean exports to the German Federal Republic in 1956 over 1955 were:

1—The growing demand of the West German margarine, table oil and oilcake producing industries.

2—The fact that the United States is the only reliable source. Due to the political situation, importing by Germany from China is difficult. This caused some decrease in Chinese shipments in 1956.





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#### CCC Sells All 1956 Takeover Beans

SALES of 1956-crop soybeans taken over under price support have been virtually completed, with only scattered odd lots in farm storage remaining to be delivered by producers and offered for sale by the Commodity Credit Corp., the U. S. Department of Agriculture reported.

USDA officials said sales have been accomplished with little or no effect on the market price of soybeans. Approximately 24,123,820 bushels of 1956-crop takeover soybeans have been sold by Commodity Stabilization Service commodity offices since the May 31 maturity date for the 1956 soybean price support program. Sales were made from the 24,941,300 bushels of soybeans now estimated to have been taken over under the 1956 support program. No carryover stocks of soybeans from previous crops were in the CCC inventory at

the time the sales began in early June.

Producers put a record total of 65.4 million bushels of 1956-crop soybeans under price support (59,524,-601 bushels under farm- and warehouse-stored loans and 5,913,651 under purchase agreements), but substantial quantities under price support loans were redeemed by producers. Producers also elected not to deliver a large part of the purchase agreement total.

CCC-owned soybeans were sold to the commercial trade either for export or for domestic crushing. As announced in October 1956, minimum sales prices for 1956-crop soybeans were set at 1956 support rates plus reasonable carrying charges. For grade No. 2 soybeans in store at points of production the minimum sales prices were the 1956 basic loan rates plus 5¢ per bushel (the average of premiums and discounts under the loan program) plus carrying charges of 1½¢ per bushel for sales in June and 3¢ for sales in July.

During the early and latter part of the sales period, which began in early June, the CCC-owned soybeans were sold at market prices which ranged from 2¢ to 5¢ above minimum selling prices. During the midpart of the sales period, prices were near the minimum.

The quantity sold by each CSS commodity office follows: Chicago CSS commodity office 14,279,591 bushels; Minneapolis 8,325,181 bushels; Dallas 673,413 bushels; and Kansas City 845,635 bushels. These quantities bring the sales total through July 31 to 24,123,820 bushels.

In view of the success of this year's soybean sales program in moving CCC-acquired 1956-crop soybeans into commercial channels without adverse effect on the market, present plans call for a similar-type selling program if any 1957-crop soybeans are taken over after May 1958 under the 1957 price support program.

#### Joins Guillory Sales

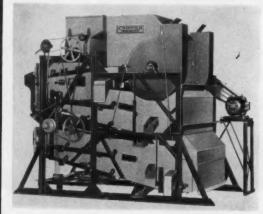
Leroy C. Gaston has joined Guillory Sales Co., Memphis, Tenn., effective Sept. 1. He recently sold his interest in the Marianna Sales Co. with which he has been associated the past 11 years, and resigned the position of secretary-treasurer with this concern. He is well known to the processing and related industries having in his years with Marianna been active in cash soybean meal merchandising and in the handling of futures in the Chicago and Memphis markets.

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#### Midsouth Handlers in Annual Meeting

ELEVATOR operators should have little problem with grain coming from areas quarantined for the soybean cyst nematode so long as the grain is handled by bin combines or corn pickers and is not used for seed, C. C. (Bill) Fancher, regional director of the plant pest control division, U. S. Department of Agriculture, Gulfport, Miss., told the fourth annual meeting of the Midsouth Soybean and Grain Shippers Association in Memphis Aug. 6-7.

Fancher said there will be no problem when a sacking combine is used or the grain is put on the ground.

Over 170 people attended the meeting, the largest number to date.

W. R. Flippin, Buckeye Cotton Oil Co., president of the Memphis Board of Trade, said he thought the Midsouth soybean crop this year will total about 56 million bushels.

The group in its resolutions commended the rail carriers for their efforts to bring about lower rail rates to Gulf points, and went on record as being "mindful of the necessity of a standarization of a discount schedule." Officers reelected were: Gus Critz, Clarksdale Grain Elevator, Clarksdale, Miss., president; Albert Cravens, Missouri Soybean Corp., Caruthersville, Mo., vice president; and Paul C. Hughes, Farmers Soybean Corp., Blytheville, Ark., secretary-treasurer

Elected directors: Gene Williamson, Browder Milling Co., Fulton, Ky.; Milton Magee, Farmers Soybean & Grain Co., Dyersburg, Tenn.; Jack Hudgens, Warterfield Grain Co., Union City, Tenn.; B. O. Berry, St. Joseph Grain Elevator, St. Joseph, La.; Sam Savage, Dixie Seeds, Inc., Gilliam, La.; Critz; H. M. Jordon, Jordan Seed Co., Cleveland, Miss.; Wiley Jenkins, Delta Brokerage & Warehouse Co., Itta Bena; Cravens; Harold Lumsden, Essex Grain Co., Essex Mo.; E. D. Barrett, Soybean Storage & Elevator Co., Honersville, Mo.; Joe Stallings, Stallings Bros. Feed Mill, Morrilton, Ark.; Jake Hartz, Jr., Jacob Hartz Seed Co., Stuttgart, Ark.; W. L. Gatz, the Bertig Co., Paragould, Ark.; and M. L. Lockhart, Lockhart Grain Co., Augusta, Ark.

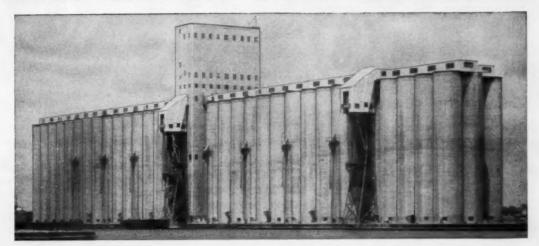
#### 1957 Feed Output up

MANUFACTURED FEED output for the first two quarters of 1957 has exceeded by a narrow margin the industry's record breaking pace for the first 6 months of 1956. Total production of all types of manufactured livestock and poultry feed has been placed at 18,134,000 tons for the 6 months period according to announcement by the American Feed Manufacturers Association. This compares with an industry volume of 17,955,000 tons for the first half of 1956.

"Marked increases in manufactured feed use by cattle and hog feeders have been evidenced along with a 5% gain in feed use by turkey growers," W. E. Glennon, AFMA president stated. "The increased production of cattle and swine feeds totalled 18%. The output of commercial broiler feed for the first half year was almost identical with the tonnage figures for the same period a year earlier."

AFMA statistics showed but two feed types failing to maintain the record pace. Dairy feeds were off 1% and poultry feeds other than turkey and broiler were down 4%.

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## GRITS and FLAKES . . . from the World of Soy

#### Hot Spot, Zeleny Companies Merge

A merger of two grain temperature measuring system manufacturers has been announced to the grain industry.

In a joint statement, James A. Schoke, president of Zeleny Thermometer Co., Chicago, and Vernon J. Kelso, president of Hot Spot Detector, Inc., Des Moines, Iowa, report the merging of the two companies.

Schoke, former president of Nuclear-Chicago Corp. manufacturing geiger counters and instruments used for the application of radio-activity in industry, medicine and research, purchased the Zeleny Thermometer Co. a year ago from S. LeVee who has since retired from the grain industry.

Schoke said the merging of the two companies brings to the grain industry a combined grain temperature system production experience of nearly three-quarters of a century.

"Combining the engineering fa-

cilities of our two companies gives the industry the benefits of both companies' pioneering experience with temperature pipes, steel cables and nylon-covered cables," Schoke added.

The merging companies will continue to manufacture both the Hot Spot Detector and Zeleny systems from the joint operations at 214 Third Street in Des Moines, Iowa.

"Under this new operation," Mr. Schoke explained, "and now with a Hot Spot or Zeleny system installations in virtually every grain community and terminal market, we are able to service existing Zeleny and Hot Spot systems and install future systems more economically and faster with installation and service technicians from regional offices."

Besides developing new equipment for the grain industry the two companies will devote a division of the joint operations for the industrial application of temperature systems.

Mr. Schoke will head the industrial temperature system division.

#### Joins A. T. Ferrell

Bill Wallace, Canton, Miss., has joined the A. T. Ferrell & Co., Saginaw, Mich., organization. He is well known throughout his home area

having been superintendent at the Louisiana Agricultural Supply Co., Inc., at Baton Rouge, La.

Mr. Wallace has received the customary factory training and is now ready to serve his newly assigned area in



Bill Wallace

Mississippi and Louisiana.

#### **Swift Promotion**

Promotion of W. L. Chalfin to sales manager of Swift's soybean oil mill at Fostoria, Ohio, has been

announced by C. T. Prindeville, vice president in charge of oil mills, Swift & Co., Chicago, Ill.

Mr. Chalfin has been a plant food representative for the company in Cleveland, Ohio, since 1952. He is a graduate of Mich-



W. L. Chalfin

igan State University with a B. S. degree in soil science.

## Mitchell to Chicago

Blaw-Knox Co., chemical plants division, Pittsburgh, has announced the promotion of Robert A. Mitchell

to chief engineer of its Midwest headquarters at Chicago.

Mr. Mitchell joined Blaw-Knox in 1951 and has been associated with the Midwest headquarters since its formation.

In his new position he will di-

rect all engineering design and estimate work at the Chicago location.

Robert A. Mitchell



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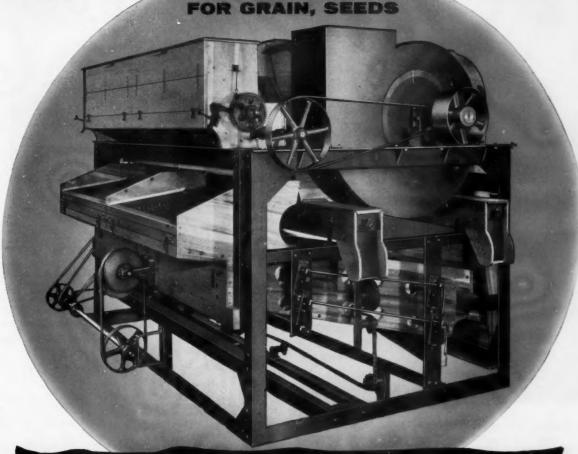
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LARGE 9 INCH METER gives automatic reading ... no button to push, or dials to adjust. One scale for all moisture

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15 sizes . . . 30 to 3,500 bu. per hour capacities.

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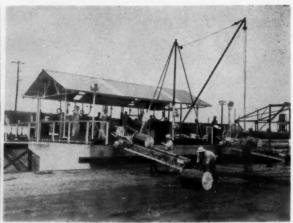
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#### LATE REPORTS

PROCESSING OPERATIONS. Reported by the Bureau of the Census for June and July.

Primory products except crude oil at crude oil mill locations: Production, shipments and transfers, and stocks, July 1957-June 1957
(Tons of 2,000 lbs.)

	Produc	ction	Shipment		Stocks end	of month
Soybean: Cake	July 1957	June 1957	July 1957	June 1957	July 31, 1957	June 30, 1957
and meal	573,744 8.865	592,814	602,523	598,912		157,114
Lecithin	1,240	1,214	(NA)	(NA		1,606

Soybeans: Net receipts, crushings, and stocks at oil mills, by states,

July 17.	ar-sune i	/	01 2/000	me./			
	eipts at			Stocks at mills			
mi July 1957	June 1957	Crushed July 1957	June 1957	July 31, 1957	June 30, 1957		
U. S	562,159 215,931 66,552 108,777 9,551 58,063 15,655	718,982 274,191 65,615 121,650 1 12,265 57,040 22,047	740,792 256,189 64,934 115,887 19,671 58,360 28,590	556,588 162,937 41,177 111,646 1 42,000	31,372		
North Carolina 1 Ohio	22,692	102,443			66,778 1 141,502		

Soybean products: Production and stocks at oil mill locations, by states,

Crude oil (th	ousand o		157 - Ju 16)			eal (tons)		
	duction		cks	Pro	Production Stocks			
July 1957	June 1957	July 31, 1957	June 30, 1957	July 1957	June 1957	July 31, 1957	June 30, 1957	
U. S264,805	271,970	116,984	95,528	573,744	592,814	128,335	157,114	
III103,566	96,065	38,363	20,877	212,027	198,322	59,697	62,687	
Ind 24,146	25,254	18,235	15,517	53,147	55,471	17,150	25,062	
lowa 44,455	42,649	20,009	17,177	100,625	95,417	11,754	14,272	
Kans 1	1	1	1	1	1	1	1	
Ky 4,471	7,224	1	544	9,838	15,687	1	1	
Minn 19,514	19,877	12,644	10,296	45,078	46,660	4,867	7,444	
Mo 8,392	10,184	2,411	3,390	18,070	23,191	1,747	3,227	
Nebr 1	1	1	1	1 1	1	3	1	
N.Cor 1	1	1	1	. 1	1	1	3,300	
Ohio 22,698	26,121	6,035	5,389	52,115	59,250	3,022	4,347	
Tex 1	1	1	1	1	1	1	1	
other 27 542	44 EO4	10 207	22 220	02 044	00 014	20.000	24 775	

other .. 37,563 44,596 19,287 22,338 82,844 98,816 30,098 36,775 \*\*Included in "All other" to avoid disclosure of figures for individual companies.

IMPORT SUPPLIES. Net import supplies of oilcake and meal in Western Europe reached an alltime high of over 5.5 million short tons in 1956, according to Foreign Agricultural Service. Net import availabilities of these feed concentrates (including the meal equivalent of net imports of oil-bearing materials) have been rising phenomenally in recent years.

Oilcake and meal: Western Europe, net import supplies<sup>1</sup>,

ann	1601 133T.	000,17	smort to	ran j	
Country	1952	1953	1954	1955	1956 2
United Kingdom	1,126.8	1,535.3	1,368.4	1,720.6	1,618.7
Austria	71.6	50.6	32.9	52.8	28.7
Belgium	299.2	202.7	256.7	246.8	9 228.2
Denmark	438.5	646.2	728.4	674.8	855.7
France	235.8	635.5	439.7	605.9	677.5
Irish Republic	28.8	39.0	41.2	40.2	41.8
Netherlands		300.6	528.0	458.8	512.8
Norway	70.3	108.3	124.3	157.5	151.9
Sweden	53.3	110.2	161.2	180.2	243.8
Switzerland	73.9	72.9	69.1	77.8	97.2
Italy	84.0	90.6	44.1	78.7	163.5
West Germany	513.3	514.3	673.2	815.5	900.0
Total net import					
supplies	3,180.5	4,306.2	4,467.2	5,109.6	5,519.8

<sup>1</sup> Comprises oilcake and meal equivalent of net imports of oil-bearing materials and imports of oilcake and meal. <sup>3</sup> Preliminary. <sup>3</sup> Partially estimated. Based on a compilation from official data.

SUPPLY AND DISTRIBUTION of the 1953-56 soybean crops, reported by Agricultural Marketing Service (1.000 bu.)

(1,000 bu.)	1953-54	1954-55	1955-56	1956-57
Carryover, Oct. 1	10,134 269,169	1,345 341,075	9,949 373,522	3,731 455,869
Total supply 1	279,303	342,420	383,471	459,600
Farm use, including seed for season	25,160	24,000	30,000	. 30,000
processing, export or carryover		318,420	353,471	429,600
Crushed for oil or proc- essed <sup>2</sup>	187,222	210,407 53,144	241,456 62,895	267,920 3 74,871
Total	225,483	263,551	304,351	342,791
processing, export, or carryover <sup>3</sup>	28,660	54,869	49,120	86,809

<sup>1</sup> Imports negligible. <sup>2</sup> No allowance is made for crushings or exports from the new crop prior to Oct. 1. It is estimated that ground 12 million bushels of 1956 crop soybeans were exported or crushed in September 1956. <sup>3</sup> Data for July estimated.

PRICE SUPPORT. Quantities of 1956-crop soybeans delivered and quantities outstanding under 1956 loan and purchase agreements through July 15, 1957:

Warehouse and farm loans delivered to CCC	Outstanding form loans	Quantity producers elected to deliver	Quantity delivered	Total deliveries whsefarm pur. agts.
22,321,544	6,665,289	2,134,646	683,382	23,004,926

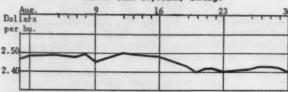
## Mitchell, Hutchins & Co.

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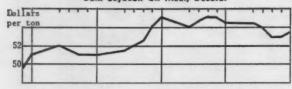
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113 S. Court Ave. Memphis, Tenn. Jackson 7-1603 231 S. LASALLE ST. CHICAGO 4. ILL. STATE 2-1700 One Wall St. New York, N. Y. Digby 4-0700

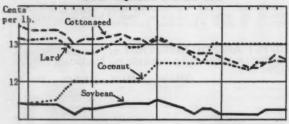
#### DAILY MARKET PRICES



Bulk Soybean Oil Meal, Decatur



Crude Vegetable Oils and Lard



#### **August Markets**

THERE was little net change in soybean oil prices during August, and cash soybeans lost a little ground. Soybean oil meal made a good gain.

Weather for growing and maturing the crop was generally good until late in the month, and there was persistent belief in the trade that the crop will be larger than private and official forecasts, which placed the crop at somewhat under 1956.

Also, export interest was somewhat slow and there were reports that oilseed supplies in Europe are growing more plentiful.

Markets strengthened when Commodity Credit Corp. announced it had liquidated its takeover soybeans, thus removing the ceiling on September beans.

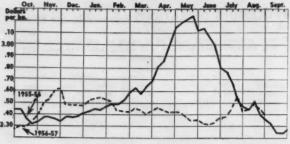
Bullish factors included the USDA Aug. 1 forecast of a 1957 crop of 428 million bushels, which was considerably below what the trade had been expecting, the cotton crop estimate which was 11% below last year and also below expectations, the belief that the 1956 crop was overestimated and that the carryover into the next crop year will be small, and rumors that processor operations will be curtailed in September due to a light September movement of beans.

Wet, cool weather unfavorable for maturing the crop with fears of early frost strengthened the market at month's end. It appeared that there might be increased competition for remaining supplies of old crop soybeans.

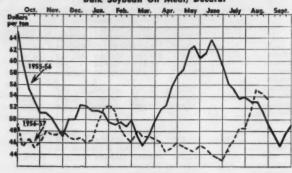
A tight condition developed in September delivery beans when it became evident that processors were not

#### TRENDS AT A GLANCE (Weekly Close)

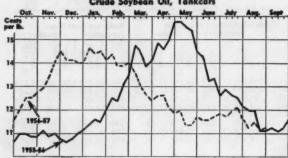
No. 1 Cash Saybeans, Chicago



Bulk Soybean Oil Meal, Decatur



Crude Soybean Oil, Tankcars



getting all the beans they wanted from country shippers. Demand for meal was fairly good most of August.

BYPRODUCTS. The price of soybean fatty acids remained at 15%¢ during August. Acid soybean soap stock delivered Midwest remained at 7¢, and raw soybean soap stock, at 3¢ per pound.

#### POSITION OF 1956 SOYBEAN CROP

1956-57

1955-56

Soybeans crushed ..267,920,000 bu. 241,456,000 bu. Oct. 1-July 31 .....

Balance on hand

Aug. 1 for

processing, export

.. 86,809,000 bu. 49,120,000 bu.

or carryover Total soybeans

inspected for overseas

shipment including lake shipments

to Canada

Oct. 1-Aug. 2 .......... 80,767,000 bu. 61,923,000 bu.

For details see preceding page and "In the Markets" beginning page 86.



## **Progress Generally Good in August**

DESPITE optimistic predictions in the trade of a soybean crop as large or larger than last year, most Soybean Digest local reports in late August did not yet indicate so large a crop, even though progress was very good last month over a large part of the belt.

And most observers were indicating that the crop will move later than last year.

The U.S. Department of Agriculture's Aug. 1 estimate was for a 428-million-bushel U.S. crop as compared with 456 million in 1956. (National Soybean Crop Improvement Council figure, 430 million bushels. Galvin-DuPont, 442.4 million bushels.)

Canadian soybean acreage, estimated at a record 255,000 acres by the Dominion Bureau of Statistics, is 18% greater than farmers' intentions had indicated in March and 1,000 acres larger than the previous record acreage planted in 1954.

At the 10-year average yield of 22.3 bushels per acre, Canadian output of soybeans in 1957 could exceed 5 million bushels, compared with 4.9 million bushels in 1956.

Apparently weed control was up to normal and even better in some cases despite the comparatively wet season

Insect pests were creating considerable havoc on the East Coast, particularly on the Delmar Peninsula.

Local reports:

Illinois. Frank Anderson, Stewardson (8-19): Lots of ground never planted. Lots of ground plowed and too wet to plant. Other beans just drowned out, planted twice. Some late beans look pretty good, but 20%

less acres than last year. South of us things look pretty blue.

Walter W. McLaughlin, Citizens National Bank, Decatur (8-19): Crop week or 10 days behind last year, developing rapidly. Most will mature except third planting. Yield outlook not as good as 1956. Weed control good on late planting, fair on early planting.

W. V. Simmons, Quincy Soybean Products Co., Quincy (8-17): Maturity of crop 10 days later than normal. Crop condition excellent. Weather and moisture conditions very favorable. Movement on early planted soybeans will begin Sept. 10 to 15. 80% planted later, probably move around Oct. 1. Overall yield outlook probably 10% less.

Indiana. Chester B. Biddle, Remington: Crop condition average. Low ground drowned out. Some weedy fields showing up. Crop movement will be week later. Weed control not too good.

Indiana Weekly Weather and Crop Report (8-17): An occasional field of soybeans is beginning to show yellow leaves. Some soybeans in replant areas are just beginning to bloom.

J. B. Edmondson, Danville (8-19): Many fields practically normal in maturity, others 2-3 weeks late. Main crop will mature, 10%-12% will get caught unless cut for hay. Conditions have improved greatly during last 3 weeks. Moisture sufficient to carry crop well along to maturity. Movement will start a week late and will proceed with no sharp peak load. Yield outlook now improved but still indicate a drop

of 12%-15% due to large acreage of late planted, short season beans.

Iowa. Glenn Pogeler, North Iowa Cooperative Processing Association, Mason City (8-20): Crop condition 95% of last year. Has been dry here but we had 1¾ inches of rain a week ago that was a crop saver. Crop movement will begin about same time as last year. Total production should be up at least 10% from a year ago. Beans are clean but some weeds beginning to show up. If crop turns out as indicated today storage space will be severely strained.

F. E. Hunt, Adair (8-17): Crop has done well under drought of past 30 days. Now having local showers. Need more rain. Yield outlook spotted from excellent to very poor.

Kansas. Weekly Weather and Crop Report (8-20): Soybean progress was variable with some fields showing excellent growth and others, particularly late planted fields, suffering badly from drought. For state, 31% had set pods compared with 76% a year earlier.

Minnesota. Henry Leitschuh, Sleepy Eye (8-20): Maturity about 10 days late. Crop condition generally good except we are getting more rain than needed in last 10 days. Yield outlook slightly lower than 1956.

R. E. Hodgson, Waseca (8-19): Beans looked wonderful until last rainy spell. Now they keep growing instead of maturing seed. Lots of pods set on those I have seen but vines still growing. Never had a better crop of weeds.

Missouri. Weekly Weather and

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		S	OYBEANS FO	R BEANS		
		Yield per			Production	
State	Average		Indicated	Average		Indicated
	1946-55	1956	1957	1946-55	1956	1937
		Bushels			1,000 bushels	
N. Y	16.2	14.0	16.0	99	112	96
N. J	19.0	24.0	18.0	432	1,080	846
Pa	17.4	18.5	17.0	400	388	374
Ohio	21.4	24.0	24.0	21,793	31,224	33,696
Ind	21.8	24.0	21.0	36,334	52,128	49,245
III	23.0	28.5	21.0	85,530	134,948	107,436
Mich	19.4	21.0	21.5	1,987	4,200	5,117
Wis	14.0	15.5	16.0	605	1,318	1,664
Minn.	18.2	20.0	19.0	22,682	52,540	50,711
lowa	22.0	20.0	24.0	38,190	50,900	64,992
Mo	18.0	20.0	18.0	23,005	39,120	31,680
N. Dak	12.6	12.5	14.0	404	2,162	2,534
S. Dak	14.8	11.5	18.0	1,232	2,576	3,348
Nebr	20.3	11.5	25.0	1,456	1,748	3,625
Kans	11.7	8.5	12.0	3,959	3,018	3,540
Del	15.6	23.0	15.0	1,067	3,450	2,565
Md	16.8	22.0	16.0	1,487	4,422	3,296
Va	17.0	21.5	17.0	2,525	5,826	4,692
N. C	15.6	21.5	19.0	4.286	8,944	8,531
S. C	11.2	11.0	13.5	987	2.948	4,590
Ga	10.1	12.5	13.0	305	1,038	1,248
Flg	18.4	22.0	21.0	1 290	748	882
Ky	17.2	22.5	18.0	2,051	2,992	2,466
Tenn	17.8	16.5	17.0	3,092	3,960	3,400
Ala	18.8	21.0	20.0	1,310	2.310	2,320
Miss	15.6	16.0	15.0	4,988	11,712	10,215
Ark	17.0	18.0	14.5	10,083	27,162	22,402
Lo	16.2	17.0	19.0	779	2.295	2,318
Okla	10.5	8.0	9.0	395	200	207
Texas	13.2	20.0	16.0	8	400	320
U. S	20.2	21.8	19.8	271,689	455,869	428,356
1 short-time acre	age. Aug.	1 report o	rop reporting	board, AMS,		

Crop Bulletin (8-17): Soybeans have deteriorated over state past week. At 74% of normal, conditions are 5 points below a week ago and compare with 87% a year ago.

A. O. Tischer, Callao (8-20): Present weather conditions indicate better quality beans than year ago but reduced yields due to many late plantings. Early planted beans excellent. Late beans on heavy bottom land very spotty, not enough growth as yet. Majority of acreage later than 1956.

Carver Brown, Laddonia (8-19): Maturity of crop 10 days later. Condition good except for being so late. Too much rain until Aug. 1. No rain since then.

North Dakota. Floyd Poyzer, Amenia Seed & Grain Co., Amenia (8-19): Crop movement will begin 10 days later than 1956. Yield outlook equal to last year.

Ohio. D. G. Wing, Mechanicsburg (8-17): Early beans are okay but late plantings are just in bloom. 90% will mature by Oct. 1. The crop is late but fairly clean and a good prospect. If frost stays off our crop will outyield 1956.

R. S. Oetzel, Marsh Foundation, Van Wert (8-20): Maturity 6 to 10 days later than normal. Condition very spotted, wet holes, some disease. Weather very dry. Yield outlook down 15% to 20%. Fewer weeds than normal.

Tennessee. Weekly Weather and Crop Report (8-16): Condition of soybeans is good in principal commercial counties and fair in hay producing counties. Dixon Jordan, Standard Commission Co., Memphis (8-20): Early planted beans are on schedule. Small run by Sept. 20. Late planted beans expected to average about 5 days later than normal. Too much rain in parts of northeast Arkansas and southeast Missouri but area as a whole has had much better than average August growing condition. Spotty outlook due to late plantings. Storage space being added all through Midsouth, 3.2 million bushels in Memphis alone.

Virginia. Louis Groh, Louis Groh & Son, Clay Bank (8-17): We had a good shower here yesterday for first time in 8 weeks. Maturity about 10 days late. Movement will begin about Nov. 1. Yield outlook about 90% of 1956

#### **Margarine Record**

MARGARINE production for the first 6 months of 1957 reached an alltime high of 712,110,000 pounds by comparison with the comparable period of any preceding year, according to data released by the Bureau of the Census, U. S. Department of Commerce.

This represented an increase of nearly 6% over margarine production for January-June 1956 which was 673,620,000 pounds.

During 1956, margarine production established a new record volume of 1,369,000,000 pounds. This year it is expected to reach 1,400,000,000 pounds, according to a forecast by the U. S. Department of Agriculture.

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#### WASHINGTON DIGEST

#### See Another Big Year for Soybeans

THOUGH A few uncertainties remain to be clarified, the 1957-58 marketing year starts in October with all the appearance of being another big one for soybeans.

The outlook in brief, as seen by officials here:

Another big volume of beans to be handled at prices to growers averaging above the \$2.09 price support rate.

Another whopping big year for export of soybeans as beans.

Another good year for export of soybean oil, though volume probably will not be as large as the big total for the year closing Sept. 30.

It is now reasonably sure that last year's soybean crop was overestimated by some 10 to 15 million bushels. Carryover stocks this October, therefore, are considered no burden.

The unofficial estimate is for a carryover in the neighborhood of 10 to 12 million bushels.

More light is needed on volume of edible oil exports, and size of the 1957 soybean crop. But no one in Washington is concerned at this stage about a surplus of beans.

Allowance is made in official thinking for some increase in production over the August estimate of 428 million bushels on 22,804,000 planted acres. At the same time, it is recognized that weather would have to be near ideal to produce

yields comparable with those of a year ago.

For all practical purposes, it is assumed here that the soybean supply will be about the same as the supply last fall. This makes allowance for some overestimate of the 1956 crop.

The tentative estimate is for a soybean supply of around 440 million bushels. This assumes a carryover of 12 million added to the August estimate of the crop.

Domestic disappearance of approximately 350 million bushels is expected next year—a crush of around 320 million and seed use at 30 million bushels. Export of beans is expected to continue at an 80-million-bushel rate.

#### **Export Outlook**

Soybean exports for the year ending Sept. 30 are now put at 82 million bushels, a record total. The 1956-57 crush is estimated at approximately 323 million bushels; use for seed at 30 million; carryover 12 million. The gap of about 13 million bushels between these totals and the supply figure at start of the marketing year represents overestimate of the crop.

Export of soybean and cottonseed oils again will be large in the coming marketing year, officials believe, though not as large as in the year closing.



By PORTER M. HEDGE Washington Correspondent for The Soybean Digest

Availability of oils for export will be a little smaller. The August cottonseed crop estimate was about 10% below last year. It would take close to 150 million pounds of other fats and oils to fill this gap. Carryover stocks of fats and oils will be down some this year, though lard production is expected to be higher.

Western Europe is said to be better off this year than last in terms of fats and oils need. Requirements from the United States are not expected to be as great, though actual takings will depend on supplies in countries such as South Africa, which normally supply Europe.

Some additional sales to satellite countries are expected. Latin America is expected to need about the same volume, except for Argentina.

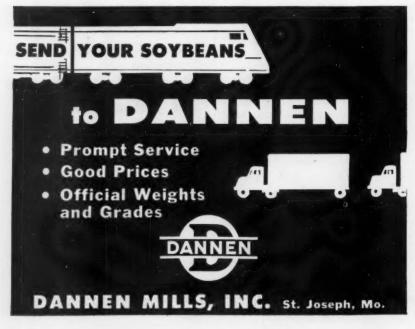
China - Manchuria exported less than usual this marketing year. If there is any change in supplies from this area, an increase in exports is anticipated.

There are said to be adequate funds for export of fats and oils from the P. L. 480 appropriation and others. However, it will take a little time, officials say, to clarify the export picture. Buyers are cagier this year than before. Firm export requests at this state are few. Figures on size of the olive crop are still

It's understood that fats and oils will have a high priority in export programs this year. There is a feeling here that need to export fats and oils is greater than for some other commodities. Also such exports can help build goodwill over-

Amounts are still uncertain. They depend on outcome of the olive oil crop in the Mediterranean Basin particularly, and to availability of funds. Indications so far are that the olive crop will be larger this year; that there will be some less need in this area than last.

However, there is no fixed export program, and it can be taken for



granted that fats and oils exports will be pushed.

There is no dollar ceiling placed on fats and oils exports under the P. L. 480 program, offocials say, because of the flexibility in the program. It is assumed at this stage, however, that total exports in the marketing year ahead will fall somewhat short of the huge volume of 1956-57.

#### **CCC Program**

USDA feels its program for selling soybeans taken over in price support operations worked out so well this year it will repeat the program, if necessary, next summer.

For all practical purposes, the 25 million bushels of soybeans taken over in price support operations have been disposed of at prices for the most part above the minimums established.

CCC reported 24,123,820 bushels sold through Aug. 6. Chicago office sales totalled 14,279,591 bushels; Minneapolis 8,325,181; Dallas 673,413; Kansas City 845,635. Most of the remaining odd lots of CCC beans were sold during August.

Producers put 65.4 million bushels of soybeans under price support last year. Of this, 59,524,601 bushels were farm and warehouse stored loans, and 5,913,651 bushels purchase agreement. A big part of the loan beans were redeemed, and nearly all of the purchase agreement beans were not delivered.

During early June and late July sales ran 2e to 5e a bushel above the minimum CCC sales prices. Part of the sales were at close to minimum prices.

#### Copra Tax

President Eisenhower is expected to sign the bill to suspend the 3¢-a-pound tax on copra imports.

The bill was tacked on as an amendment by Senator Frear of Delaware to a House-approved measure providing for free importation

of tanning extracts. The House later accepted the Senate amendment.

The measure is essentially the same as that offered in the House by Congressman King of California. The King bill got bottled up in the House Rules Committee, however, and never got out.

The bill would become effective Oct. 1 if signed by the President in September. The tax would be suspended until June 30, 1960. The tax has been running about \$15 million a year.

#### Freight Increase

AN INCREASE of 9% in the basic freight rate on grain, grain products including soybeans and vegetable oil shortenings was authorized by the Interstate Commerce Commission on Aug. 6.

The increase, which is in addition to emergency increases of 5% to 7% previously granted, applies to Eastern, Western and Southern territories and interterritorially between these territories. It is part of general increases granted by the Commission.

Railroads had asked for a 15% general increase in freight rates in 1956. The proposed increase was opposed by the American Soybean Association on the ground that it would bear heavily on the nation's soybean producers who have been caught in a cost-price squeeze.

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STEEL GRAIN BINS—18 FT. x 16 ft. surplus government type steel bins, new, approximately 3,500 bushels capacity, available for your surplus storage problems. For particulars write: Midwest Steel Products Co., 121B Railway Exchange Bldg., Kansas City 6, Mo.

NEW AND USED PORTABLE FEED mills. H. L. Myers, Route 3, Alliance, Ohio. Phone 7044.

FOR SALE—ONE MODEL 200
Campbell Grain drier and accessories. Write Ursa Farmers
Coop. Co. at Ursa, Ill., or Corn
States Hybrid Service, Des Moines,
Iowa.

FOR SALE—SEEDBURO STEINlite grain moisture tester, factory rebuilt, one year guarantee. Exclusive distributors Seedburo Equipment Co., 613 W. Jackson Blvd., Chicago 6, Ill.

FOR SALE — 72-INCH FRENCH cookers, 10 x 42 three high cracking rolls, Anderson coolers, driers and Expellers, cake breakers, meal grinders, boilers, sewing machines. Ray L. Jones, 2222 Oakview Drive, Jefferson City, Mo.

FOR SALE— 75 4-INCH FLANGED plug cocks, 2-way, Durimet. 20 3-inch stainless steel flanged tees. 12-inch aluminum skate conveyor, new. Carl Nussbaum, Jr., 9907 Preston Highway, Louisville 19, Ky. Phones — WOodland 9-4439, SPring 6-0071.

DISPOSAL SALE—30 BRAND NEW roller mills, ballbearing, for crimping, cracking; different sizes. Prices \$90 to \$750. Three new Beall degerminators. Noramgrex Co., Box 85, Malden 48, Mass.

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#### IN THE MARKETS

FACTORY USE VEGETABLE OILS for May and June 1957. Reported by Bureau of the Census (1,000 lbs.)

Primary materials: Factory production and consumption, and factory and warehouse stocks, June 1957—May 1957 (1,000 lbs.)

	Factory production		onsump-	Factory and ware- house stocks	
June 1957	May 1957	June 1957	May 1957	June 30, 1957	May 31,1957
Cottonseed, crude 53,599	*81,445	69,368	79,033	70,242	107,760
Cottonseed, refined 65,405	74,543	105,878	106,940	205,214	245,087
Peanut, crude 1 4,086	*7,120	5,779	6,587	6,494	7,714
Peanut, refined 5,448	6,309	3,480	4,215	6,469	7,080
Corn, crude 23,139	23,817	24,592	23,424	14,035	13,948
Corn, refined 22,875	21,850	20,568	21,257	7,504	7,068
Soybean, crude271,970	289,605	251,126	230,533	180,480	195,853
Soybean, refined238,089	217,495	235,912	213,302	98,325	101,845
Hydrogenated vegetable oil Edible:	s				

Edible:
Cottonseed ... 31,330 32,178 24,745 30,815 17,718 16,277
Soybean ... 97,230 95,318 86,499 90,431 41,494 36,752
Other ... 7,206 7,929 4,450 4,953 3,843 3,610
Inedible ... 2 1,780 1,943 1,985 1,870
Margarine ... 98,088 116,196 (NA) (NA) 28,855 29,963

\*Revised. NA Not available. ¹Data for stocks exclude quantities held by consuming factories. ²Not shown to avoid disclosure of figures for individual companies.

Factory consumption of vegetable oils, by uses, during June 1957 Edible products Inedible products

Short- ening	Marga-	Other	Soap	Paint and var- nish	conts and simi- lar oils <sup>1</sup>	Other ined-ible <sup>2</sup>
Cottonseed,						
refined11,632	1,486	1,854		3	*****	167
Soybean,						
crude	*** **		21	388	******	2,057
Soybean,						
refined33,738	6,379	3,639		7,030	36	7,583
Foots, vege- table, raw and acidu- lated (100%						
basis)	*****		2,126	226	598	1,672
Hydrogenated vegeto	ble oils, ed	dible:				
Cottonseed 10,350	12,087		*****	*****	*****	010000
Soybean30,430	54,674	1,375		3	P27044	*****
Other 1,766	3	1,422	000000	000000	*****	

<sup>1</sup> Includes quantities consumed in lubricants, greases, cutting oils, dielectric oils, core oils, brake fluids, and metal working. <sup>2</sup> Quantities consumed in linoleum and animal feeds are included in the above totals. Data for fats and oils consumed in chemicals and linoleum and oil-cloth, which were previously shown separately, are now included in "Other inedible" while quantities consumed in core oils, cutting oils, brake fluids, dielectric oils and metal working, formerly included in this total are now classified in "Lubricants and other oils." <sup>3</sup> Not shown to avoid disclosure of figures for individual companies.

Consumption of fats and oils in fat splitting

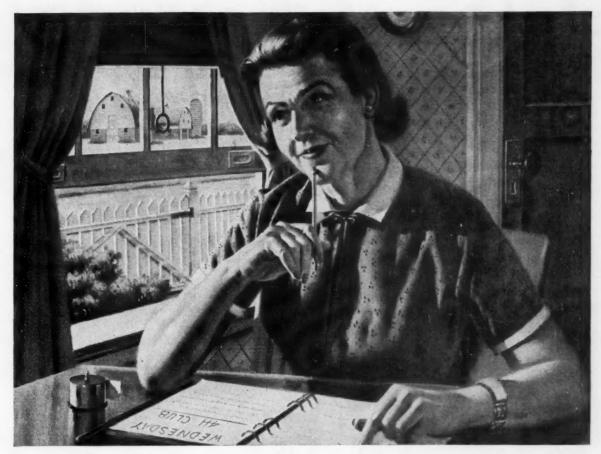
Soapstocks June May Cumulative June Cumulative Vegetable foots.... 9,163 8,005 46,355 7,577 54,722

MEAL, OIL EXPORTS. Exports of cottonseed and soybean oils from the United States in the first 9 months of the current marketing year totaled 1,079 million rounds, according to preliminary Census Bureau data. This was an increase of 13% from October-June shipments of last marketing year.

June exports of cottonseed and soybean oils were 99 million pounds, an increase of over 50% from May, but 11% below June 1956. Exports of soybean oil, at 60 million pounds, were equal to exports in May and 45% over June 1956. Exports of soybeans in June are estimated at 3.4 million bushels on the basis of inspection reports. This brings estimated October-June exports to 68.5 million bushels, compared with 59.2 million a year ago.

Total exports of cake and meal for the first 9 months of the current marketing year were 426,200 tons, a de-

1956



## What is a County Home Agent?

The words "useful citizen" best describe this woman. From early morning, perhaps until midnight and later, she has one objective—to be of service to the farm community. Her task is demanding but her reward is great—the affection and respect of the farm people she serves. This is the County Home Agent.

Many a farm home is a little brighter because of her. That farm girl knows how to bake bread because of her. Some day that home nursing group may be saving lives because of her.

The wonder of the County Home Agent is that she can know so much, seemingly be so many places at once, and keep up such an untiring pace.

Hers is a life dedicated to others. We don't know what salary she makes; but we do know that no salary is adequate recompense for the work she does, and that here is a person who does what she does for reasons other than salary.

While we may only guess what makes a woman take up the demanding work of a County Home Agent, there is no question as to the value of that work. And there are others who serve agriculture in a similar manner—the country editor, the rural minister, the country doctor, the county agent—the list is long.

Backing up these people are still others who serve in different ways—creative processors such as Cargill, for instance.

Like the County Home Agent, Cargill believes in service to the farm community. You see, creative processing is a never-ending search for better markets for farm products and better products for the farm. These are goals that require ceaseless laboratory work and the kind of dedicated service we have come to expect from the County Home Agent.

The job of creative processing is a gigantic one. Consider that today more than 75% of the nation's total farm crop is changed in form for industry and the consumer—changed by creative processors such as Cargill.

Creative processing is actually part of

a team effort—the "team" consisting of the farmer and Cargill, as a creative processor. For more than 90 years this team has contributed much to America and the free farm economy.

It is Cargill's hope that it may continue to occupy its No. 2 spot on the farmer-processor team for many years to come. Like the County Home Agent, we value this chance to be of service to the farm community.



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crease of more than 25% from October-June 1956. Over 85% of the total 9-month exports was soybean cake and meal.

Cottonseed oil, soybean oil, oilcakes and meals: U. S. preliminary estimates of exports in June 1957 and October-June 1956-57 and actual exports, June 1956 and October-June 1955-56

	June	Octobe	October-June	
Commodity 193	1957 Prelim- ió inary	1955-56	1956-57 Prelim- inary	
	Million	pounds		
Cottonseed oil, refined 30.	9.9	199.9	58.9	
further processed 9.	9 .6	98.4	15.4	
Cottonseed oil, crude 30.	5 29.0	202.8	282.4	
Total cottonseed oil 70.	5 39.5	501.1	356.7	
Soybean oil, refined 2.	9 23.2	50.4	63.4	
Soybean oil, refined and				
further processed 25.	7.5	263.8	310.7	
Soybean oil, crude 13.	3 29.0	39.1	348.5	
Total soybean oil 41.:	3 59.7	353.3	722.6	
Total cottonseed and				
soybean oil111.	99.2	854.4	1,079.3	
	Thousand	short tons		
Cottonseed cake and meal 2.5	5	149.5	26.0	
Linseed cake and meal 6.5	5 .1	114.0	34.7	
Soybean cake and meal 19.6	32.7	319.9	365.5	
Total cake and meal 28.6		583.4	426.2	
Compiled from official records of	f the Bureau of	the Census.		

Title I, P. L. 480, July 1956-June 30, 1957, exports
June 1957 July 1956-June 1957 Metric Metric Quantity Quantity tons tons Cottonseed 3,727 8,217,000 39,230 lb. 86,488,000 Soybean ..19,891 43,851,000 262,200 578,051,000 Foreign Agricultural Service

Soybeans: Imports into Japan, by source, averages 1925-29 and 1934-38, annual 1949-56 (Million bushels)

Ave	rage								
1925-	1934-								
29	38	1949	1950	1951	1952	1953	1954	1955	1956
. 1	1	5.8	3.5	10.8	6.0	15.0	16.3	21.0	19.7
15.4	21.3	.7	2.9	.2	1	.6	1.7	7.5	6.1
. 1	1		1	3	1	.5	.7	1.1	****
6.2	.6	****	****	****	****	****	****	****	***
									.5
23.0	22.7	7.1	7.5	11.4	6.1	16.5	18.7	29.7	26.3
	1925- 29 15.4 6.2	1 1 .15.4 21.3 1 1 6.2 .6	1925- 1934- 29 38 1949 1 5.8 15.4 21.3 .7 1 1 1 6.2 .6	1925- 1934- 29 38 1949 1950 1	1925- 1934- 29 38 1949 1930 1951 1	1925- 1934-       29     38     1949     1950     1951     1952       15.4     21.3     .7     2.9     .2     1       1     1     1     1     1     1     1       6.2     .6           1.4     .8     .6     1.1     .4     .1	1925- 1934-       29     38     1949     1950     1951     1952     1953       1     1     5.8     3.5     10.8     6.0     15.0       15.4     21.3     .7     2.9     .2     1     .6       1     1     1     1     1     1     .5       6.2     .6            1.4     .8     .6     1.1     .4     .1     .4	1925- 1934-       29     38     1949     1950 1951     1952 1953 1954       1     1     5.8     3.5     10.8     6.0     15.0     16.3       15.4     21.3     .7     2.9     .2     1     .6     1.7       1     1     1     1     1     .5     .7       6.2     .6            1.4     .8     .6     1.1     .4     .1     .4	1925 1934 1949 1950 1951 1952 1953 1954 1955 1

**PRICES.** Average prices for soybeans received by farmers, effective parity, and soybean rate, reported by Agricultural Marketing Service (dollars per bushel)

Ave	Average farm price		Effec- tive parity	Av. price as percent of parity		rice suppo rate	
July 15 1956 2.47	June 15 1957 2.18	July 15 1957 2.24	July 15 1957 3.01	July 15 1957 74	1955 erop 2.04	1956 crop 2.15	1957 crop 2.09

Wholesale prices of fats, oils and oilseed meals, specified markets and periods. Fats and oils, per pound.

1.956 Ct.	April 1956 Ct. 58.3	1956 Ct.	1956 Ct.			Mid- July 1957 Ct.
57.4	58.3	50.2				
		37.2	60.8	59.4	59.4	59.0
9.1	10.8	10.4	12.2	13.9	12.8	12.8
12.2	15.4	13.0	13.3	14.5	13.2	14.0
11.7	14.9	12.5	12.5	14.4	12.4	12.0
			<ul><li>12.2 15.4 13.0</li><li>11.7 14.9 12.5</li></ul>		11.7 14.9 12.5 12.5 14.4	

Oilseed Meals, per ton <sup>2</sup>
Dol. Dol. Dol. Dol. Dol. Dol. Dol. Dol.

Soybean meal, 44% protein, Chicago.. 66.70 61.85 64.20 66.15 57.10 61.20 56.90 58.50 Soybean meal, 44% protein,

44% protein, bulk, Decatur .... 56.00 51.00 53.00 54.80 45.70 49.90 45.50 47.00 Bagged carlots except soybean meal at Decatur, which is bulk. Agricultural Marketing Service, USDA.

# Soybean Dust Problems Solved by Sturtevant Air Separator



RIGHT: Spencer Kellogg & Sons employee making classification adjustment on Sturtevant Air Separator in operation at Bellevue, Ohio, soybean meal plant. Separator minimizes air-borne dust losses while removing hulls and classifying end product.

LEFT: Two lead-off chutes at bottom of Sturtevant Air Separator in Spencer Kellogg & Sons plant. One chute in the closed circuit system sends to packaging all uniform size, dust-free meal while the other returns all undersize fines for pelletizing.

# Closed Circuit Air Separation Cuts Losses, Keeps Plant Cleaner, Improves End Product

Dust — finer than 80 mesh — was accounting for 4 to 5 percent of the soybean meal production at the Spencer Kellogg & Sons plant in Bellevue, Ohio. Much of this dust was disseminated into the air during processing, becoming a total loss. And such free dust made working conditions unpleasant, plant and storage sheds untidy in appearance. Also, the proportion of dust retained in the end product was an annoyance to farmers and ranchers.

All of these problems have been solved by a Sturtevant Air Separator operating in closed circuit with a pelletizing machine. The processed soybean meal goes through the Air Separator at the rate of about 85 tph. Particles representing dust and hulls go out the fines chute to the pelletizer. The pellets are then ground and re-circulated through the Air Separator at rates to 10 tph, bringing the machine's total capacity to 95 tph.

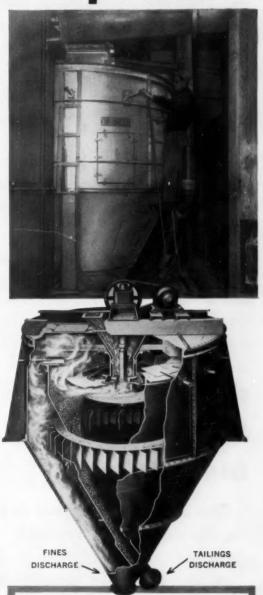
The net result is that Spencer Kellogg & Sons now has cut dust loss to a minimum, no longer has any airborne dust problems, and is producing a better standardized, dust-free end product. Sturtevant, the pioneer in centrifugal air separation, has once again helped to solve a precision classification problem — and without an expensive, multi-unit installation. Write today for more information. Address: Sturtevant Mill Co., 144 Clayton St., Boston 22, Mass.

# STURTEVANT Dry Processing Equipment

The "OPEN-DOOR" to <u>lower</u> operating costs over <u>more</u> years

CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS

BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS



#### THERE'S A STURTEVANT FOR EVERY CAPACITY

No other single air separator can match Sturtevant's 40 to 400 mesh classification range at rates up to 100 tph. . . . and tested record of increasing mill capacities from 25 to 300% while lowering power consumption as much as 50% (when used in closed circuit with grinding mills). Nine models available, ranging from 3 to 18 ft. in diameter. Request Bulletin No. 087.

### **DID YOU KNOW?**

Soybeans are the great farm saver.

They are the one crop on which farmers can bank for a fair price and ready cash.

Over the years there has been a dependable market for every bushel grown. There never yet has been a surplus—even though growers have increased production by as many as 100 million bushels in a single year.

Soybeans are now grown commercially on more than 20 million acres in 33 states—and the crop is still expanding!

# Soybeans ARE big business

The Soybean Digest is the only channel through which you can reach this entire market. And you can do it at very low cost. For further information, phone, wire or write:

#### The Soybean Digest

Hudson, Iowa

*Soybeans				monthly p			Illinois
Year	Oct.	Nov.	Dec Dec	Jan.	Feb.	Mar.	Apr.
1951-52	2.80	2.90	2.95	2.90	2.90	2.88	2.82
1952-53	2.85	2.89	2.90	2.85	2.82	2.94	2.95
1953-54	2.57	2.83	2.99	3.03	3.17	3.49	3.80
1954-55	2.69	2.74	2.73	2.74	2.74	2.63	2.54
1955-56	2.22	2.19	2.27	2.35	2.45	2.56	2.85
1956-57	2.21	2.42	2.39	2.43	2.35	2.35	2.33
Year	May	June	July	Aug.	Sept.	A	vq.
1951-52	2.92	3.17	3.22	3.25	2.98		97
1952-53	2.87	2.76	2.56	2 55	2.47	2	78
1953-54	3.63	3.66	3.70	3.55	2.72	3	.26
1954-55	2.46	2.42	2.36	2.39	2.84	2	.56
1955-56	3.10	2.97	2.54	2.40	2.18		51
1956-57	2.29	2.26	2.34				
* Quotation	ns are fo	r No. 2 y	ellow so	ybeans fo	or 1951-	53.	

**STOCKS.** Agricultural Marketing Service's commercial grain stocks reports for close of business on Friday or Saturday preceding date of report (1,000 bu.)

	July 23	July 30	Aug. 6	Aug. 13	Aug. 20
U. S. soybeans in	store and	afloat a	t domestic	markets	
Atlantic Coast	589	542	299	367	325
Gulf Coast	665	1,002	1,049	1,306	835
Northwestern and					
Upper Lake	1,681	2,103	2,290	1,876	2,370
Lower Lake	2,727	2,337	2.013	2.027	2,468
East Central	332	422	374	256	278
West Central					
Southwestern & Western	117	121	96	95	291
Pacific Coast	0	0	0	0	0
Total current week	6,111	6,527	6,121	5,927	6,567
Total year ago	9,176	6,833	5,763	5,035	4.288
U. S. soybeans in					
Total current week	4	4	4	91	40
Total year ago	0	0	133	115	194
Total North A	merican c	ommercial	soybean	stocks	
Current week	6,115	6,531	6,125	6,018	6,607
Year ago	9,176	6,833	5,896	5,150	4,482

Primary receipts (1,000 bu.) of saybeans at important interior

Chicago	July 19 322	July 26 367	Aug. 2 584	Aug. 9	Aug. 16 690	Aug. 23 478
Duluth		****	0101	1	****	****
Indianapolis	. 44	75	67	71	94	91
Kansas City		314	251	224	113	51
Milwaukee			****	62	****	****
Minneapolis	207	189	249	142	28	80
Omoha	65	47	51	12	5	22
Peorig	. 18	182	247	245	275	230
Sioux City	29	15	16	22	8	21
St. Joseph	6	7	15	13	19	18
St. Louis		6	3	6	8	4
Toledo	0.0	20	20	20	26	14
Totals	903	1.222	1,503	1.886	1.266	1.009
Last year	1,011	393	274	262	129	96
Total Chicago						
soybean stocks	2,556	2,301	1,967	1,980	3,789	2,335

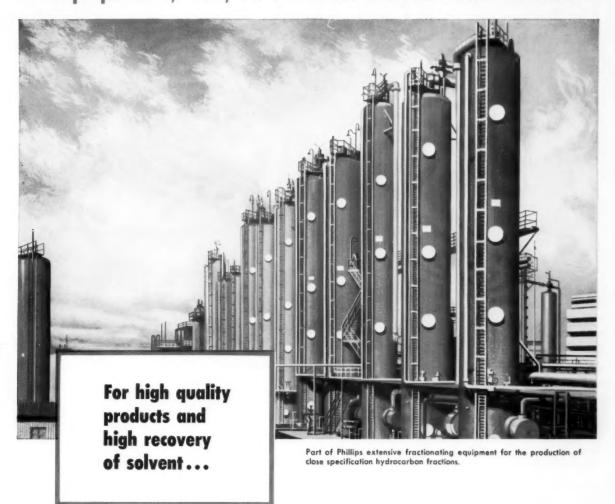
**INSPECTIONS.** Soybeans inspected by grades and percent, reported by Agricultural Marketing Service.

Grade	OctJuly 1955-56		OctJuly 1956-57		July 1956		June 1957		July 1957	
	1,000 bu.	Pet	1,000 bu.	Pet	1,000 E	u. t	1,000 Ь	u. t	1,000 bi	L CT
No. 1	55,650	21	47,702	17	1,673	18	3,863	21	5,679	24
No. 2	128,061	49	115,558	42	4,746	51	8,263	44	10,738	46
No. 3	53,084	20	61,233	22	1,910	20	3,577	19	3,743	16
No. 4	19,359	8	37,295	13	659	7	1,963	11	2,674	11
Sample	5,950	2	16,727	6	364	4	918	5	782	3
Tota	1 262,104	100	278,515	100	9,352	100	18,584	100	23,616	100

**EXPORTS.** Preliminary data on U.S. exports of soybeans and soybean oil for June 1957, with comparable data for June 1956 and cumulative totals for the marketing years 1955-56 and 1956-57, reported by Foreign Agricultural Service, U.S. Department of Agriculture.

	Ju	ne	October-June		
Unit	1956	1957	1955-56	1956-57	
Soybeansbu.	3,703,608	3,481,659	59,186,174	68,370,934	
Soybean oil:					
Crudelb.	13,318,185	29,866,307	39,089,695	349,328,141	
Refined but not further pro-					
cessedlb.	2,869,070	23,317,668	50,373,201	63,525,826	
Refined, deordor- ized and hydro-					
genatedlb.	25,104,253	7,219,976	263,859,732	310,495,642	
Total beans and oil, oil equiv-					
alent basislb.	81,957,124	98,632,567	1,003,186,819	1,474,062,442	
U. S. agriculture Commodity		1956	1957	Percent change	
Vegetable oils, oils	eeds	410	450	+ 10	

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SYNCHRONIZED NUTRIENT ACTION

# WAYNE HOG FEEDS! Geared up to help you...



# Market Your Hogs 2 Weeks Earlier!

Hog Feeding benefits never before thought possible . . . now yours in Syncro-Zymic Wayne Hog Feeds, an exclusive Wayne Research development!

In two years of extensive tests on thousands of hogs at the Wayne Research Farm, these Syncro-Zymic formulations (in comparison with very good hog rations) made records like these—

- Faster gains that sent hogs to market 2 weeks earlier.
- Greater feed efficiency (as much as 10% less purchased feed and <sup>2</sup>/<sub>3</sub> bu. less corn per hog).

NO EXTRA COST: Syncro-Zymic benefits are in every bag of Wayne Hog Feeds—Tail Curlers, Pig Balancer, Hog Balancer, Brood Sow Supplement and all other Wayne Hog Feeds—at no extra cost to you.

#### What Syncro-Zymic Means to You

The secret is in the right balance of nutrients to make better use of body enzymes.

- As much as \$1.00 to \$1.50 extra profit per hog at market (depending on local grain prices).
- . More uniform weights.

Wayne Researchers discovered that certain ratios of nutrients, properly geared to each other, put into more effective action the enzymes in the bodies of pigs and hogs. They call this working together of nutrients and enzymes "Syncro-Zymic Activity." Result: far greater feed efficiency than ever before! Now yours exclusively in all Wayne Hog Feeds!

For earlier marketing, faster gain at lower cost, greater net profits...ask your Feed Dealer Now for NEW Syncro-Zymic...



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